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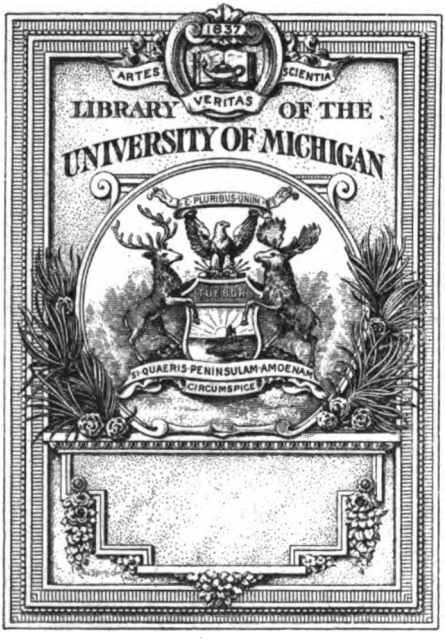
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Annals of Medical Practice

Ernest Watson Cushing

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ANNALS

OF

34865

GYNÆCOLOGY

A MONTHLY REVIEW

OF

GYNÆCOLOGY, OBSTETRICS, AND ABDOMINAL SURGERY.

EDITED BY

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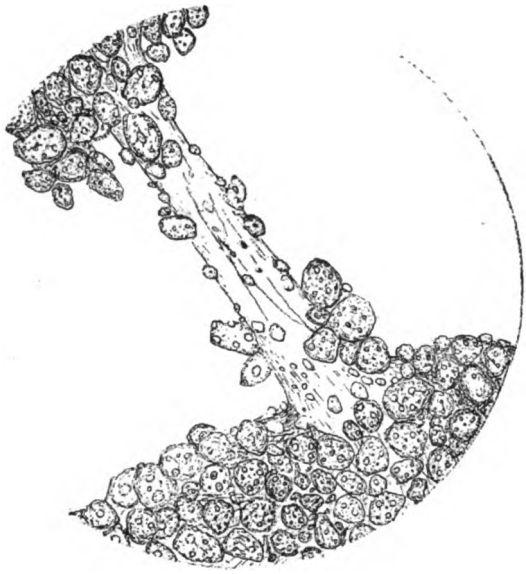


Fig. 1. (x. 3,000.)

Fibre of endometrium, showing different grades of corpuscular development. — See page 30.

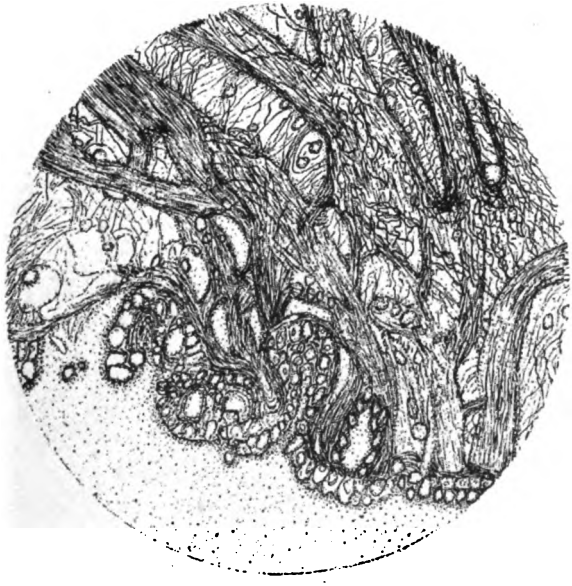


Fig. 2. (x. 800.)

Endometrium of girl eleven years of age, showing no corpuscular development. — See page 31.

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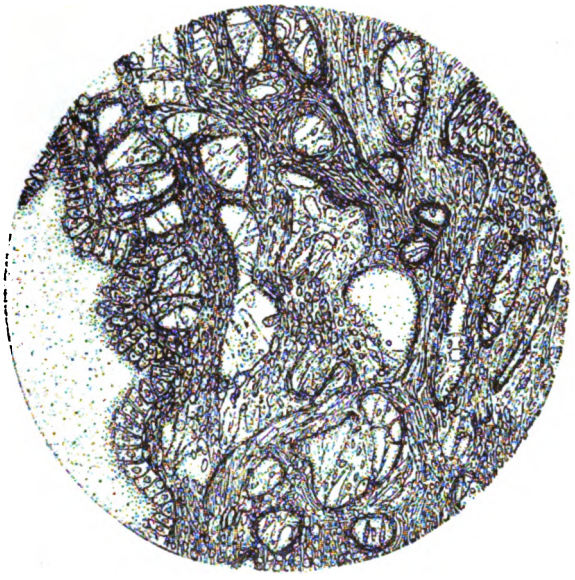


Fig. 3. (x. 800.)

Endometrium of girl aged thirteen, menstruated twice, showing beginning of corpuscular development. — See page 31.

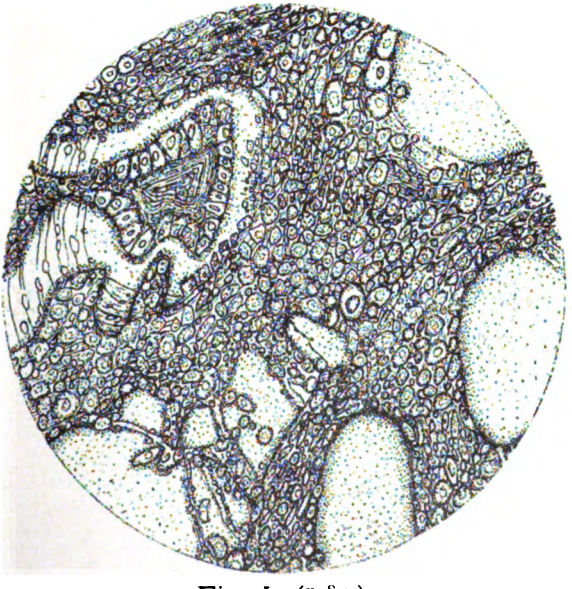


Fig. 4. (x. 800.)

Menstruating endometrium of woman aged twenty, showing utricular follicles denuded of epithelium, with one still containing epithelium cast. — See page 31.

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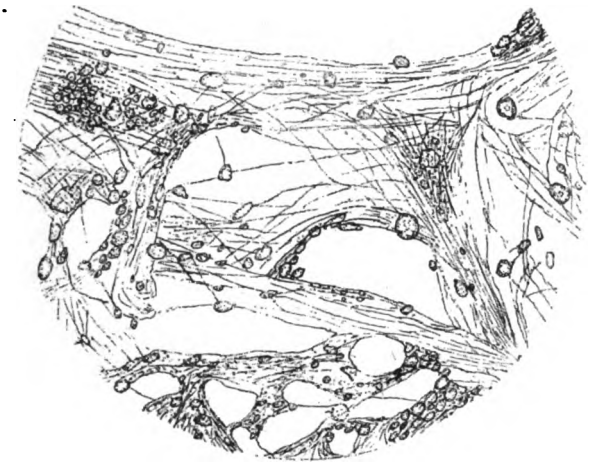


Fig. 5. (x. 800.)

Endometrium of woman aged sixty, showing exhaustion of whole structure. — See page 31.

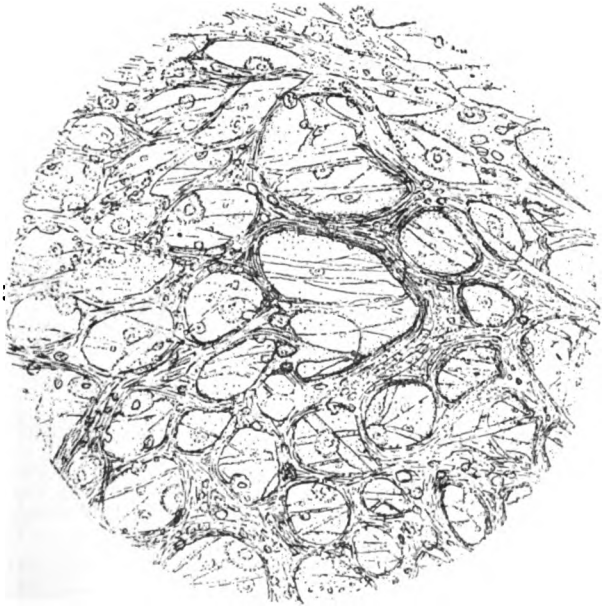


Fig. 6. (x. 800.)

Soft myoma. — See page 27.

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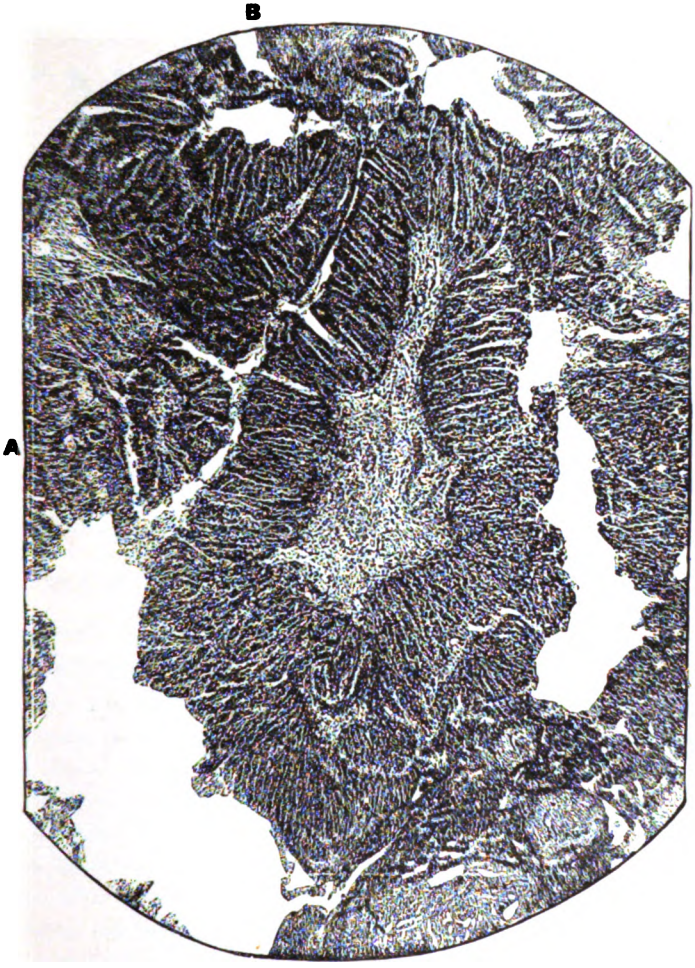


Fig. 7. (x. 150.)

Papilloma of Ovary, Figured in this Journal, Sept., 1888.

Microphotograph of cross-section of papilla at A, Plate IV. In centre, connective tissue carrying vessels. Around this is thick layer of cylindrical epithelium. Similar formations are seen near A and B. The apposition of these papillæ form figures, hollow and lined with cylindrical epithelium, thus resembling glands. As the papillæ are massed together to form a solid tumor, the resemblance to adenomatous degeneration of the fundus uteri becomes striking; in fact, very frequently these growths degenerate into carcinomata.

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ANNALS

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GYNÆCOLOGY.

VOL. II. OCTOBER, 1888. NO. 1.

ORIGINAL COMMUNICATIONS.

ON SOME NOVELTIES IN MY ELECTRICAL TREATMENT OF UTERINE FIBROIDS; WITH ANSWERS TO OBJECTIONS.[1]

BY DR. G. APOSTOLI,[1] PARIS.

Paper read at the Congress of the British Medical Association, Glasgow, August, 1888.

TRANSLATION BY D. WOODHAM WEBB, M.R.C.P.L.

GENTLEMEN, — Every therapeutical innovation which runs counter to prejudices and interests meets with opposition, and has to bear the brunt of hastily-formed opinions. This has been the lot of my electrical treatment of uterine fibroids, and I am happy that it should be so, since frank and loyal controversy will bring light upon the subject and strengthen my position.

My first object to-day is to bring forward all the arguments that have been set up against my system, to reply to them, and to show that this can be done with success. In order to avoid personalities and to keep this discussion on a footing of scientific courtesy, I shall group these objections without regard to the source from which they come, and let my reply immediately follow the statement.

In the second part of my paper I propose to introduce to your notice some additions I have made to my therapeutical expedients, which will be regarded as of practical importance.

PART I.—ANSWERS TO OBJECTIONS.

I. Criticisms on the book of Dr. Carlet.

Many deprecatory remarks have been made upon the histories of my

[1] From copy sent by the Author.

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first hundred cases, as reported in the thesis of my assistant, Dr. Carlet. I must notice them separately.

a. It is said that I have confusedly mixed up cases of simple *subinvolution*, or the *enlargements of chronic metritis*, with those of fibrous tumors.

How could this possibly happen, since the greater part of the women had never been pregnant, and among the rest I had to deal with wombs of enormous size, some even rising above the umbilicus? Besides, the most careful examination, both external and internal, combined with hysterometry, left no doubt in my mind as to the nature of the cases. But even supposing a mistake had been made in some rare cases, it could be no cause for regret, for it would only prove that two conditions, chronic metritis and fibrous tumors, equally refractory to ordinary management, are amenable to the same treatment.

b. Judging by the uterine measurements given in my book, a large proportion of my cases have but slightly diminished. It may be true that in many instances the uterine measurement has but little altered. The sound only gives information as to the uterine cavity. The greater part of fibroids, both sub-peritoneal and interstitial, may coexist with a nearly normal cavity, and, consequently, may and have undergone reduction without any appreciable modification of the depth marked by the sound.

But independent of this question of anatomical change, variable according to the situation of the tumor, we have to look at that of the symptomatic cure, here the most important; for how often do we meet with considerable fibroids of which the bearers have no consciousness, while the lives of other women are put in peril by small and even the smallest tumors.

What is it that brings women with fibroids to the consultation-room? Generally because they have pain or hæmorrhage. Why are they operated on? Always for the same reason, to save them from the consequences of pain or hæmorrhage. Cavil as much as you please about the importance of such anatomical reductions as I have obtained; but, so far as concerns the symptomatic cure, there can be no doubt, for I affirm that the greater number of my patients have been made and remain well. Is there any other known method of treating these affections of which so much can be said?

c. Many of the reports of my cases are incomplete. No one knows better than myself that it is so. If I have nevertheless persisted in including these cases in my statistics, it has been with the plain intention of giving a complete view of my practice, so that an opinion might be

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formed from it of the harmlessness of the electrical treatment which I have introduced.

d. The treatment is long and troublesome. This I am so well aware of, that since the year 1884 I have made every possible attempt to shorten it by increasing its efficacy. It is with this motive that I have gone on gradually augmenting the intensity of the electrical current, and have made many alterations in my mode of procedure. It will be seen, too, in the new series of cases under treatment since 1884, which I have almost ready for publication, how marked is the progress made, in all respects, since the commencement of practice.

II. My method is only an old story, and many others have attempted the cure of fibroids by electricity before me.

There is some truth here. But one may observe about the same difference between former applications of electricity and my method, as would be found between the ancient theriacal quackery and modern therapeutics.

Electricity has been used; but what electricity? In what dose? where? how? for how long and how often? All this is unknown, and all was empirical.

Over and above the many indications I have scientifically established as to the *technique* itself, the mode of operating, the electrical localization, the choice of poles, the acquired tolerance of the indifferent or inactive pole, there is one fact which gives me a right to claim priority, and that is, that no one before 1882, or before me, had taken an exact measure of the current he employed, or had employed an intensity of power known to be above 50 milliampères.

III. My method is dangerous, and the danger arises in various ways.

a. From the intra-uterine application.

b. From the making of galvano punctures.

c. From the use of high intensities of current.

I have been reproached on account of several recent deaths said to be directly attributable to my treatment. To this indefinite assertion I again give the most positive denial, as I did last year in publishing my complete statistics. I prove, too, by figures relating to nearly 7,000 galvanic applications, the innocuousness of my method, provided the operative conditions are appropriate, that it be used rationally, and with antiseptic scrupulousness.

I will say a word on each of the three sources of danger specified.

a. The intra-uterine cauterization, which is nothing more than a therapeutical hysterometry, might have appeared formidable before the common adoption of the practice of intra-uterine raclage. As that which

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I do is only a sort of galvano-chemical raclage, there is every reason to regard it as equally beneficent in its action, and my experience more than fully justifies its *à priori* sanction.

b. I put entirely out of the question all abdominal or supra-pubic punctures.

Any one who is not both gynæcologist and electrician might be expected to set down the *vaginal galvano punctures* as hazardous. In making them we certainly do come within the risk of doing mischief, which must be guarded against, and which my experience enables me to disclose with exactness.

a. It has been urged as a point against my treatment, that after a number of punctures, when there is free suppuration, or a quantity of necrosed matter in the womb, or in the centre of the tumor, there *must be difficulty in keeping off septicæmia.*

This objection would have some force if there were neglect in following the rules which I have framed, viz.: —

First. To observe a constant and perfect antiseptic practice.

Second. To make the punctures only every eight or fifteen days, so as to avoid accumulations of fetid matter; with temporary suspension of the sittings as soon as there are any threatenings of fever.

Third. To make, without exception, only superficial punctures, not more than half, or at most, one centimetre deep, so as not to cause any central gangrene, and to admit of an incessant antiseptic treatment.

b. Perforation of the bladder or rectum, followed by fistula, and the wounding of some great blood-vessel, are accidents to be apprehended.

I admit that a misfortune of this nature happened in one of my early operations. I now point out the way by which it may be avoided.

First. Never make a puncture in the anterior cul-de-sac.

Second. Confine the punctures to a lateral, or to the posterior, cul-de-sac.

Third. Make use of a very fine trocar.

Fourth. Never introduce a speculum through which to make a puncture; and before proceeding to puncture, make a minute and scrupulous examination of the part chosen for puncture.

Fifth. Puncture as near as possible to the body of the uterus, from without inwards, making the axis of the instrument correspond with the axis of the organ.

Sixth. Choose for the seat of puncture the most prominent point of the tumor found in the vagina, making it project more, if necessary, by directing an assistant to press it downwards with his hands upon the body above the pubes.

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Seventh. First pass the insulating celluloid sheath through the vagina, and fix it at the spot to be punctured, on the point of the index finger. Then slide the trocar up the sheath and make the puncture.

c. The ***high intensities***, which I have been falsely represented as using exclusively and abusively, are denounced as sources of danger; and the less tolerance shown by rabbits, than the human uterus, under a galvanic current, has been made the base of an objection.

As regards the animal, it affords no grounds for comparison. As regards woman, clinical observation has more than sufficiently proved the perfect impunity with which high intensities can be supported; and more than that, it has demonstrated their utility by establishing the fact of the progressive rapidity with which improvement takes place in proportion as the ascending force of the current increases, if it be well applied and well tolerated.

I ought, however, to add that there is a limit to this increase of intensity; and it must be regulated by the therapeutical effect obtained. For the present, I disclaim all participation in recommending what I regard as the abuse of those intensities, — such as the administration, said to have been made, of currents of more than 500 milliampères.

Moreover, I feel some difficulty in believing that men, who daily put women under the perils of castration or hysterectomy, are speaking seriously when they denounce my procedures by recounting a series of hypothetical dangers.

IV. My method is not efficient.

This objection is presented in a variety of forms: —

a. For some, it is *useless in the greater number of cases.*

b. Others say that the current has *no action on fibrous tissue;* that its effect is only shown on *the uterine tissue.*

c. Others, again, if they admit any action, say that it is only *temporary and ephemeral;* that the tumor, against which we direct it, remains just as it was, and that *relapses* are sure to come.

I answer: —

a. The faults committed in the application of the treatment when it is done badly or incompletely, the neglect, in fact, of all the instructions I have given, ought in no way to bring disparagement upon the method itself. Further, I affirm again, as I have already written, that the method, properly used, has effected, ninety-five times out of one hundred, not, as I have been erroneously made to say, the absolute removal of the tumor, but —

First. An anatomical diminution which does not advance so far as the complete dispersal;

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Second. The quick and lasting cessation of hæmorrhages;

Third. The disappearance of all the symptoms of compression;

Fourth. The symptomatic restoration of the patient.

If these four clinical results are not witnessed regularly, and in the same order, in all subjects, the fact may be explained in many ways. I will mention some of the chief.

First. The *anatomical regression* generally varies, first, according to the character of the tumor, whether soft or hard, being more rapid in the case of soft tumors than in the hard ones.

Then, again, a difference is made by the situation of the tumor, the localization of the electric action. The more distinctly this is sub-peritoneal, the weaker will be the influence of the current.

But without doubt the general tendency of all fibroids, when skilfully treated with high doses of electricity, is towards spontaneous enucleation, by their disengagement from amidst the uterine stroma. This curative process, which consists in their liberation either through the mucous membrane or the peritoneum, is seen to take place with some interstitial fibroids.

I ought, also, to note here what I have almost constantly observed as the treatment advanced, namely, the occurrence of an accumulation of adipose tissue under the abdominal tegument. This new condition ought always to be borne in mind when estimating the size, or changes of size, in fibroids, by measurement of the circumference of the abdomen. The external measurement, even with a collapsing fibroid, may remain the same simply on account of the recent, and often abundant, quantity of fat developed in front of the tumor.

I therefore recommend that, at the commencement of every course of electrical treatment, three measurements of the body should be registered, which may serve for future reference: *First*, the circumference of the abdomen at several points; *second*, the exact thickness of the layers of skin and fat, above, below, to the right and to the left of the umbilicus, taken by means of a graduated compass; *third*, the weight of the patient.

I cannot deny that I have in some rare cases been disappointed and failed, the same as happens in all human undertakings. The future may enlighten us about these difficulties, for they all relate either to ascitic fibroids, or to fibro-cystic, or to abnormally vascular, fibroid tumors.

I may add that while certain fibroids shrink without any sphacelation, or any appreciable sero-purulent discharge, others only undergo this change as the result of a more or less extensive necrosis.

Second. *The arrest of hæmorrhage* has also been disputed.

Many who hold this opinion do so without ever having made or

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seen an experiment on some tissue to convince themselves of the hæmostatic power of the condensed action of the positive pole, when applied to a cut and bleeding surface. Then I am asked to explain how it is that results are not constant. I can only say that this depends upon different conditions, *clinical*, *anatomical*, and *physical*.

Clinically, hæmorrhages are more difficult to suppress in the cases of interstitial and sub-mucous fibroids.

Anatomically, the arrest of hæmorrhage will be more speedy and certain as the uterine cavity is more narrow and less deep.

Physically, the hæmostasis becomes more decided as we augment the intensity of the electrical current, and insure the perfect coaptation of the electrode with the entire extent of the bleeding surface.

To resume: the arrest of hæmorrhage by electricity is arrived at in three different ways, either associated or independent of each other.

The action of the current, which is a vehicle of force and of chemical action, may be studied either as it is manifested at the *poles* or in the *interpolar circuit*.

(*a*). The *polar action* of the positive pole is hæmostatic, either at once or some time afterwards; immediately, if the bleeding surface is totally cauterized by the application of a sufficient intensity; subsequently, after some interval from the commencement of the treatment, if the hæmostatic action has not been powerful enough in the first instance, by the appearance of an atresie, more or less pronounced, of the uterine canal. This atresie, which some gynæcologists will not admit, I have the opportunity of seeing almost every day in some one or more of my former patients, although they have not yet arrived at the menopause. In certain women, with a large uterus and an expanded cavity, in which the ordinary sound had moved with great freedom, I have discovered, one, two, or three years afterwards, that it could not then be introduced, and that the canal only permitted the entrance of a sound of the most diminutive size.

Now, this cicatricial atresie (which, however marked it may be, and, as a new observation, it is interesting to notice this, is not accompanied with dysmenorrhœa) is the physical reason of the postponed electrical hæmostasis and of the permanence of the results established.

(*b*.) The *interpolar action* is equally hæmostatic in a tardy manner, and in an entirely different way, without the polar action being in any degree implicated. Indeed, there is reason to believe that we may stop hæmorrhage, though, it must be confessed, more slowly, without at all cauterizing the mucous membrane, and by restricting the treatment to galvano-punctures made in the tissues of the tumor itself.

The denutrition of the substance of the fibroid will, after a certain

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time, bring about a progressive stoppage of the hæmorrhage, without the mucous membrane having been touched.

Either pole may be used for this purpose, though I incline to prefer the negative. It is more to be relied upon, because it is more denutritive than the positive.

I have, as a matter of experiment, given clinical demonstration of this separate *interpolar* hæmostatic action, by treating several hæmorrhagic fibroids by galvano punctures only, without any intra-uterine cauterization.

I am convinced, however, that the *combined use* of the two methods will be found more certain in producing the hæmostatic action in cases where the simple intra-uterine cauterization has shown itself ineffectual.

Third. The cessation of pain and of the effects of compression will vary among patients as much as the causes which produce them. Generally, this takes place coincidentally with the retrogression of the tumor. In other instances, on the contrary, it is the initial phenomenon which precedes all others. This may be accounted for either by the relief of the uterine congestion, which is early realized, or by the mitigation of the ovarian neuralgia.

There are cases, however, in which this amelioration comes on but very slowly. I have remarked that in these inveterate cases we can generally recognize some ovarian or tubal complication, some inflammatory or suppurative condition of these parts which is less disposed to yield to electrical treatment.

Fourth. The symptomatic restoration of the patient is the most striking result of the treatment, the most rapid, and that which most surprises both the subjects of it and their medical attendants.

One of the few adversaries of the method has thus expressed himself: "I have been able to assure myself that all the women under treatment have experienced a stimulating influence, very favorable to general nutrition and the recuperation of their forces. They feel more cheerful, more buoyant, more alert; in a word, seem to have more life. Whether it be that the innervation, sensibility, and mobility of the abdomen and pelvis are more happily excited, the patients keep about without difficulty, and walk freely, in a way which was impossible before anything was done for them. The movements are unembarrassed. The tumor no longer distresses by its weight or contact with the sensitive viscera. With the trunk and the pelvis disengaged from an overpowering constraint, the limbs do their office with freedom." They acknowledge, too, that the digestive functions are well performed, that sleep is natural, that the miseries of bladder-pressure have ceased, that constipation is less annoying, and that there is a restoration of active life in all its integrity and intensity.

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b. The second reproach of inefficacy is made on the supposition that *the current can act* only on *fibrous tissue*, and that it has *no effect* upon the *uterine tissue.*

There is falsity in this limitation of the effect of the current; and the proof is that an action, combined or isolated, may be observed in both one and the other of these tissues.

We see cases, in fact, where the uterus itself undergoes no contraction, as may be ascertained by the sound; while examination above the pubes enables us to decide positively as to a diminution of the subperitoneal part of the fibroid tumor.

On the other hand, in the simple hypertrophies which follow chronic metritis, or in the non-fibroid hypertrophies of the uterine tissues, there is always a lessening of the uterine cavity under treatment.

The action, then, is here only on the uterine tissue, as, in the other case, it was upon the fibrous tissue; and the process of disintegration, set up by the passage of the current, results in promoting a general retrograde metamorphosis of the muscular, connective, and fibrous hyperplasies.

c. The *third* reproach in reference to *inefficiency*, which consists in a declaration that the effect of the treatment is only *temporary* and *emphemeral*, can be no better sustained.

It is now six years since I began the practice of this method, and I have regularly and carefully kept an account of the condition of my patients.

I can affirm that relapses have been truly exceptional. The very infrequent cases where I have had to administer secondary treatment were those of women who had unadvisedly discontinued their attendance. There has been no difficulty in bringing this secondary treatment to a satisfactory end.

V. My method is empirical and unscientific.

It is said that it wants precision, and that I have given a theoretical explanation of it which cannot be admitted.

If my method be *empirical*, it stands, in that respect, on the same level as the whole of pharmaceutical practice; *empirical*, as the giving of opium, which causes sleep; *empirical*, as the use of quinine and digitalis, to check fever or modify the circulation.

The why and the wherefore of things eludes us. What we have to do is to make ourselves familiar with the natural laws ruling the phenomena which come before us.

Every organic or inorganic movement, every molecular change, excites a corresponding development of electricity, and the process of nutrition, like every other vital action, is subject to this law. Now, a continued cur-

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rent passed through the human body marks its presence in two different ways. At the points of entry and exit, that is, at the two poles, in virtue of an electrolytic action, inseparable from the passage of the current, we find an accumulation of acids on one side and of bases on the other.

This is a fact commonly known, and I shall have to refer to the therapeutical importances of these acids and bases.

In the organic substance intermediate between the two poles, the *interpolar region*, as it is called, through which the current spreads in rendering itself from the point of entrance to that where it is discharged, there is a twofold action. The one is *contemporaneous* with the current itself, the other is *posthumous*.

The contemporary action consists in an exaggerated vital and circulatory activity favorable to the rapidity of nutritive changes. This will explain the absorption of certain effusions, either interstitial or intra-articular, under the influence of a current directed through them.

The posthumous action, enduring after the cessation of the current, occasions that condition known as the *polarization* of the organic tissues. This is an accepted fact. The organic region, thus occupied by the circuit of the current, is, in effect, charged as a second battery. It is consequently endowed with a supplementary electro-motive force or tension, which in its discharge prolongs the topical and trophic effects that the preliminary current had begun; and it still further advances the retrograde metamorphoses which we see in non-malignant neoplasms.

Yet we encounter some who say that there is no such thing as *interpolar action*, and that the current leaves no visible or tangible trace of its presence.

Who has ever been eye-witness of a current in a nerve trunk? Who has ever seen the something which is transmitted by the telegraph wires?

As it is with many natural phenomena, such, for example, as nutrition, which we only know by its effects, so it is with the current.

Let any one who denies the fact of interpolar action but just apply one pole to the forehead and the other to some part of the body, the hand or foot, and he will at once have sensory evidence of two phenomena which constantly follow: first, the appearance of flashes of light; and, secondly, a change in taste of the saliva.

How should we account for these invariable phenomena unless there be an interpolar action of the electric current?

Place one pole on the neck, over the pneumo-gastric nerve, and let the other be held in the hand. You will thus stop many a threatened vomiting. It must be some interpolar action which produces this effect.

Indeed, nervous pathology, as a whole (nervous, medullary, cerebral,

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or peripheral), requires ordinarily nothing more as a means of relief than the interpolar action of the continued current.

If interpolar action were not a reality, electro-therapeutics would soon become an idle word, for it would be reduced almost to the simple chemical or mechanical effects of polar action; and these we might in a great measure afford to neglect.

As we recognize this sceptically treated *interpolar action* by its unavoidable consequences, so we have, as evidence of its presence, the effects of *polar action*.

On this point, again, I am accused of empiricism; and my accusers merely substitute their erroneous interpretations of the respective action of each pole for the formulas that I have laid down.

I have said the *negative pole* is more irritating, more charring, more destructive than the *positive pole*. In opposition, I am told that as acids abound more in the human tissues than the bases, we ought to find a greater proportion of acids at the positive pole than of bases at the negative pole; hence, the preponderant action, *quantitative*, of the former. But the fact is overlooked that a current has no caprices, and acts only according to the laws of its nature; that electrolysis or decomposition takes place molecule by molecule, equivalent of acid for equivalent of base, whatever may be the composition of the body under experiment.

The only preponderance which one pole has over another is purely *qualitative*. The dry, positive eschars offer a considerable resistance to the flow of the current, and consequently impede its diffusion. The negative eschars, on the contrary, are softer and more moist, and, only feebly opposing the current, allow of its more easy dispersion. There is no difficulty in convincing one's self of this fact.

Take two electrodes of equal dimensions, — of gas-carbon, it may be, — covered with moistened leather, and place them symmetrically on two parts of the body. Of the two poles it is the negative which will first give indications of its activity by the pain it occasions, the eschars, and the extent of the eschars, which it burns.

In the same way, after punctures with two trocars actually of the same character, the loss of substance resulting from the fall of the eschar, made by the negative pole, will be much more considerable.

In conclusion, if the electrolytic action is found to be concentrated at the two points of entry and outlet of the current, it is impossible to deny the intermediate dynamical action, which is more powerful than either. It matters little for our purpose whether this intermediate action be directly upon the tissue-cells, or, which is more probable, upon the nervous influx, of which it augments the tension, as auxiliary to the normal currents in

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them. The clinical results are incontestable. There is the same retrogression of fibromes that is often found to take place after the menopause, or the excision of the ovaries, without our being able to furnish any unimpeachable theory to account for the facts.

VI. My method is of no use, and there are better ways of treatment.

Let us consider the worth of these other modes of getting rid of fibroid tumors: —

a. Mere *expectation*, or, literally, *doing nothing*, aided by repose *in bed*, is sometimes trusted to as sufficient to assure the retrogression of the tumor and the quiet existence of the patient.

This can only be true of a few fibroids, especially after the change of life. But it will not do to lay down an absolute rule based on these particular cases. Every day's experience shows us that the death of a great many women is the consequence of their tumors, and that others, in large numbers, have their lives embittered by pain and hæmorrhage. I admit that some, under the influence of confinement to bed for several months, find a temporary amendment; but I cannot see that this enforced rest ever produces a spontaneous and regular diminution of the fibroid and the disappearance of the symptoms, such as follow the use of my method. Nor can it be maintained that similar improvements under my treatment are mere *coincidences*, for my patients are not kept in bed, continue their ordinary occupations, mostly come for their sittings to my consulting-rooms, and follow the common mode of life.

I believe that much more is to be expected from the influence of the menopause alone, although not as a matter of course; for I have had under my care not a small group of women from 55 to 65 years of age, who had experienced the disappointment of finding their tumors enlarged considerably, and even doubled in volume, after the menopause.

b. Then it is said that treatment by *medicines* will give relief, and is equal to the cure of fibromes.

This assertion will not bear examination. The very multiplication of the remedies eulogized is a proof of their powerlessness.

What, in fact, do the recommendations amount to?

As for *mineral waters*, patients may go on using them, hopefully and unprofitably, year after year, till they arrive at the time of the menopause.

Internal medication is very uncertain, and for the most part untrustworthy. *Ergot* stands at the head of the list of things tried. Independently of the local and general mischief of which it may be the cause, it must be allowed that it more often fails than succeeds. Women come

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to me showing the marks of ergot injections, to which they had patiently submitted for years without any perceptible benefit.

Before the adoption of my electrical method, one other kind of treatment only had been at all encouraging; it was that of *A. Tripier*, who places in the uterus pencils of a paste of iodide of potassium.

c. Next, *surgery* claims the precedence of medicine.

First of all there is the *minor surgery*, which includes *intra-uterine raclage, liquid injections*, and *punctures* with the *actual cautery*.

However excellent may be the use of *raclage* in simple endometritis, its sphere of action is limited to the mucous membrane. It has no power over lesions of the parenchyma, none over fibroids.

Nothing better can be said of *liquid injections*. They too have special dangers by no means insignificant.

As for vaginal *cauterizing punctures*, their effect is deceptive and temporary. Their action in no way corresponds with that of the galvano-chemical punctures which I employ. These two modes of puncturing have, in fact, nothing in common but the name.

They are essentially different. In a cauterizing puncture, even when it is a *galvano-thermic cauterization*, heat is the agent upon which we depend. There is no special electrical action. The platinum wire, brought to incandescence by the current, burns, and burns only. It conveys no current into the tissues, which are simply cauterized.

On the contrary, with galvano-chemical punctures we have both a local chemical action and a general dynamical action, but no effect of mere burning. The electrical current, going from pole to pole, inevitably traverses all the tissues upon which we intend to operate.

We now come to *surgery proper*, which assumes to have settled the question magisterially.

The exploits of ovariotomists have given a new character of boldness to abdominal surgery. In urging operations, the risk of the life of the patient has been sometimes too lightly considered. In spite of its difficulties, its dangers, the long convalescence which it involves, and always with the presumption that antisepticism will come to aid in lessening the mortality, abdominal hysterectomy has been by some hands pushed too far. To go no farther, for figures, than Paris, our Surgical Society has recently published a statement showing that, according to the operators, the deaths from this operation mount up to from 40 to 50 per cent. If left to themselves, do patients die at this rate from their tumors? And have we not reason to assent to what Thomas Keith has said, that "abdominal hysterectomy has done more harm than good"?

We see, as a consequence, a general disposition to substitute the

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vaginal operation for that which has been so fatal. True, the loss experienced is smaller, but then comes the drawback of its being practicable only at the early stage of growth; for I maintain that it would be impossible in the case of large tumors.

Operative failure in this direction has led many surgeons to discard hysterectomy for the cutting away of the uterine appendages, the intention being to give women the supposed advantages of an induced menopause. But even here there is no guarantee of constant success, for every operator has been obliged to record not only inadequate results, but some cases of death.

It therefore becomes a serious matter for consideration, whether, as a point of professional morality, one is not bound to make trial of a system of treatment which I and others affirm to be not only harmless, but effective, before recommending a patient to take the risks of hysterectomy or the certainty of mutilation.

VII. My method wants exactitude, and is uncertain in its effects.

It has been objected that, however easy it may be to graduate the intensity of the current, and consequently to estimate the equivalent of acid and alkali set loose by its passage, there must always remain an undetermined free residue capable of effecting further cauterization, after saturation of the uterine secretions. This uncertain excess of cauterizing material *is a bar to anything like precision* in your procedure.

I meet this objection in two ways: by pointing out, *first*, the mistake made in confining attention only to the polar action; and, *secondly*, that a wrong idea is formed of the nature of electrical cauterization. This is of primary importance.

While ordinary caustics, whatever be their composition, act from without inwards at the point of contact, and, after a time, form in the products of mortification a barrier to any more profound penetration, the galvano-chemical caustic acts in a different manner, by setting up a kind of *auto-cauterization*. The tissues are decomposed by the electrolytic action of the current, and the resulting products are the cauterizing agents. The character of the eschar thus formed is in exact relation to the intensity of the current and the duration of the operation. No acid or basic product is left disengaged, and the tissues cauterize themselves continuously from the beginning to the end of the sitting, without any other limitation, interruption, or suspension of the action, except that which comes from the will of the operator.

This cauterization encroaches more and more on the deep layers of tissues, instead of being restricted to the surface, and ending, as imagined, in the disengagement of acids and alkalis in the uterine cavity.

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VIII. My method is difficult, costly, and troublesome.

So far as regards difficulty, there certainly is less than with hysterectomy. I want no assistant, can operate anywhere, at the home of my patient or in my own room, and though the operator must be both gynæcologist and electrician, the scientific qualifications are easily acquired.

When one has to pay the enormous price demanded for a complete laparotomy equipment, it seems absurd to quibble about 400 or 500 francs, the cost of electrical apparatus.

It will be seen that the trouble of transport and management dwindle to a mere trifle, when I am able to announce that, at my suggestion, the electricians in Paris are now making perfect batteries, which take up very little room, and are quite transportable, the cost being 150 or 200 francs.

IX. My method is imperfect.

Here the objections are both to the apparatus and instruments I employ and to the way in which I use them.

a. The *apparatus.*

First. The galvanometer of *Gaiffe.* Some call it a *toy;* others say it is *not to be depended upon.*

I have used this instrument for some years, and have made my own observations upon it; and I have had it, and others, submitted to the opinion of competent electricians.

We find that the galvanometer of *Gaiffe* is the only one in which the graduation is exact. By testing, I can find an error in the record of only from 2 or 3 per cent., which is of no practical importance. It also has the merit of being cheap.

Edelmann's galvanometer without "shunt" fails to the amount of 7.5 per cent.; with "shunt" the defect increases to 20 per cent. It registered $\frac{160}{1000}$ ampère, instead of $\frac{200}{1000}$ ampère.

An American galvanometer by *Waite* is of the same construction, and has the same faults as the German instrument.

The constants are:—

without shunt,		error, 6 per cent. at least.			
with	"	10—	" 32	"	"
with	"	100—	" 25	"	"

In face of these plain physical facts all theoretical complaints must give way.

Second. The hysterometer in platinum.

Objection is made to its being straight and rigid; and it is proposed to replace it by a sound made of copper which will bend easily and accommodate itself to the passages.

Any one who is in the habit of passing a sound, as it ought to be

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done, without the speculum, will give preference to a sound which is rigid: —

a. Because it enters more readily;

b. Because we can more easily change its position in the uterus;

c. Because it can be made to pass more easily over any obstacles, especially about the internal orifice.

Another sound, made of platinum wire coiled round a stem of copper with a point of caoutchouc, has been recommended instead of mine.

The insulating end of caoutchouc is bad, since it stands in the way of complete cauterization. The wire also is wrong, in that it does not make a good conductor, is kept clean with difficulty, and with so many interstices can scarcely be made aseptic. This sound is too flexible and does not preserve its polish.

Third. Dirty, cold, and troublesome, such is said to be the pad of clay which I place upon the abdomen; assuredly I should be pleased to find something better.

I have tried several of the substitutes which have been proposed for the clay, but have found none of them to have the same quality of *plastic, adaptive* adhesiveness. Neither do they well guard against the burning of the skin. The women, therefore, have *more pain*, and are more scarred, as I observed in London.

The abdominal electrode of *Franklin Martin*, of Chicago, is the best I have met with, and will perhaps be adopted. It gives us the opportunity of applying it to the abdomen at an agreeable temperature.

Fourth. The insulating sheath of celluloid.

In exchange for this, we are offered sheaths made of *gum elastic*, such as used for catheters, which is corroded by many solutions and tears readily. I cannot find that it has any of the qualities of the celluloid which I introduced. This substance *insulates* perfectly, is *aseptic, hard*, easily *cleaned, durable, not injured* by acids, can be plunged, if necessary, into boiling water, and has only the disadvantage of being inflammable.

b. Technique. For some curious reasons, which I cannot understand, there has been a sort of jealous rivalry in changing the details of my practice.

First. In regard to *intensities.*

Some have talked of using currents of 500 and 1,000 milliampères.

Now, this would be *dangerous*, and I should say *impossible;* impossible certainly without chloroform, for in all my experience I have never seen a woman on whom such a dose could be tried, — dangerous for the safety of the skin of the abdomen, which must be burned, and from the general mischief which would follow the operation.

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But knowing the little reliance to be placed in the greater part of the galvanometers in use, I look upon all these reports of excessive intensities as exaggerations.

Second. Dosage uncertain.

As I am supposed to have been rather loose in my dosage of electricity, it has been thought proper to call in the aid of mathematics to regulate matters for all sorts of cases, but especially for bleeding cases.

An experiment is made showing that a current of 25 milliampères intensity, traversing a positive electrode of platinum, with a surface of one square centimetre, and applied for five minutes to the mucous membrane of the neck of an enlarged uterus, will so condense the structures that no further bleeding can take place, even when they are punctured to the depth of 1½ centimetres. Hence, it is concluded that success must follow as a constant consequence if we maintain the demonstrated proportions between dose and surface; and it is laid down as a rule that we are to use a current of 50 milliampères for an electrode of two square centimetres surface, and of 100 milliampères for one of four square centimetres. This may sometimes turn out to hold good, but not with the precision announced.

For who does not know how many sources there are for these hæmorrhages; lesions of the *mucous membrane, lesions peripheral.*

a. Lesions of the mucous membrane. These vary in extent and depth, in the condition of the blood-vessels, and in the amount of congestion.

b. Peripheral lesions; such as reflex hæmorrhages, hæmorrhages connected with the evolution of intra-parietal neoplasms, passive hæmorrhages due to disturbances of the peri-uterine circulation, hæmorrhages depending upon some affection of the tubes or ovaries.

It is evident that, setting aside simple lesions of the mucous membrane, the dosage of electricity in its application to uterine diseases must vary according to the circumstances of each case. I believe that the general instructions I have given from experience will serve to guide through most difficulties: Use for a bleeding fibroid the highest intensity of intra-uterine current a patient can bear; — if that does not answer, add punctures to the cauterization; — should they not be sufficient, put the patient under chloroform and raise the dose.

Such, gentlemen, are the objections made to my method, and such are my answers. I consider my answers perfectly meet the objections.

But there is one fact which overrides all verbal quibbles and theoretical irrelevancies.

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As regards my method gynæcologists muster in two ranks: those who have tried it, and those who have talked about it.

The practical men give me their adhesion, and with that I am satisfied.

The talkers have had their say, and one of your English proverbs, "*An ounce of practice is worth a pound of theory*," is enough for them.

Part II. — The Novelties in my Method of Treatment.

Having thus, so far as I am concerned, cleared the ground of controversy, I pass on to clinical and practical questions. I am far from supposing that we have reached the last stages of the development of the electrical treatment of fibroids. Some modifications which I proceed to explain will, I think, be found to mark a decided progress.

The two dominating symptoms in these cases are *pain* and *hæmorrhage*. I will give them separate consideration.

I. Pain.

I need not enter into details as to the many sources of this pain; it may be either concentrated in the uterus itself, or diffused.

We have, *first*, *Localized uterine pain*, arising from an augmenting interstitial compression, such as is often complained of during the early period of growth, without there being any appreciable bearing upon the neighboring nerves or organs.

Second. *Extra-uterine pain*, which may depend upon a not uncommon, but often overlooked, partial *perimetritis* or *parametritis*. We meet with *inflammatory conditions of the appendages;* and sometimes with uncomplicated *ovarian neuralgia*.

To relieve this symptom, pain, the almost uniform gynæcological solicitude, we have, as I was the first to point out, a powerful resource in *faradization*. The currents of *tension*, applied as much as possible in the cavity of the uterus, and under the conditions which I have for some time indicated as to electrodes, and especially the duration of the sitting, are *sedative* in a high degree.

They will be found of almost *certain arresting power in simple ovarian neuralgia; calming* only in cases of *pain from other sources*, and but of very little service in the *acute* and *suppurating* forms of *peri-uterine inflammation*.

We have, then, in my opinion, a most energetic agent with which to encounter this element of *pain* in cases of fibroid tumor, in the judicious association of *induced* and *continued* currents, under the form of an intra-uterine galvano-chemical caustic.

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But we are not restricted to the use of these means only, for we have in such cases a supplementary expedient in galvano puncture, or the direct transmission of a current through the substance of a tumor, using for this purpose the negative galvano puncture. We may, perhaps, account for the good effects observed by the rapid retrogression of the tumor, or in the setting up of a more powerful derivative action. Explicable or inexplicable, the clinical fact remains undeniable, that many of my cases of painful fibroids have been put at ease by the *negative galvano punctures.*

Such was my ordinary practice till lately, when a few instances of want of success led me to try the effect of the *positive* puncture on some patients, in whom the reaction from the negative punctures had caused too great inconvenience or alarm, and on others whose hysterical temperament made the negative punctures insupportable.

First I tried with steel needles, but I was thwarted in two ways. First, they oxidized and became immediately useless; and then the oxidation, together with the dry eschar formed around the electrode, created an obstacle, which no one as yet had noted, to the passage of the current, and consequently caused a diminution of the electrical supply. Thus, other things being equal, while a negative galvano puncture furnished an intensity of 150 milliampères, that of the positive puncture did not exceed 50 milliampères.

To free myself from this difficulty I put aside the steel trocars and replaced them by a fine *gold* needle, which is not acted upon in the same way, and will last for some time. The only precaution to be used with this needle is, that it must not be allowed to remain in contact with any *mercurial* solution, which disintegrates metals, and renders the gold brittle. The vaginal irrigations must therefore be made with the carbolic or other antiseptic mixtures, to the total exclusion of all mercurial preparations. I may say that I have great confidence in these positive punctures for fibroids, especially when we encounter persistent pains; and I even have recourse to them when the pain seems to be connected with a state of peri-uterine inflammation.

II. Hæmorrhage.

I believe that we may improve our way of treating hæmorrhage, and render it *shorter* and more *decisive.*

We occasionally fail for two reasons: first, that all the bleeding membrane inside the uterus is not *equally* and *uniformly* cauterized; and, secondly, that we have not used a current *strong enough* to cauterize sufficiently.

First. Irregular cauterization.

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I employ a straight platinum sound, which answers perfectly well in a small uterus with a small cavity. But its action lessens in proportion as the extent of the mucous membrane enlarges. This may be owing either to the instrument moving too freely and coming in contact with only *one surface of a large cavity*, or to some *inequalities* of surface such as are found in the hour-glass form of uterus, when the small straight sound touches only isolated points, cauterizing some to the utmost, while others escape altogether.

I overcome these difficulties in two ways: —

a. After a multiplicity of experiments I have devised a new electrode, which is soft, and not only a good conductor, but *harmless* and quite *aseptic*. It is composed of *gelosine*,[1] and can be made to mould itself upon the whole of the uterine interior.

It must be previously sterilized, either by open boiling and then cooling, or by exposing it in the containing-vessel to a temperature of from 100 to 120 degrees centigrade. This matter is then introduced into the cavity of the uterus, so as to fill it, by means of a long piston-like sound of some insulating material, such as hardened caoutchouc or celluloid. The metallic stem of this piston-sound may then be used as electrode, and the current passing through it to the centre of the gelosine paste, thence radiates over the whole mucous membrane.

There is another way of making use of this gelosine packing. Withdraw the piston-sound when the cavity is completely filled, and plunge a metallic sound, insulated nearly up to the point, into the middle of the gelosine, and make connection with the battery.

b. I succeed in cauterizing the whole of an irregular cavity by progressively increasing the size of the electrodes, so that in the end the entire surface is brought into contact with the conducting body.

To do this with sounds of gold or platinum, the only available metals, was a costly affair, and I instructed *Gaiffe* to make for me a series of seven sounds of gas carbon,[2] which *conducts readily*, is *little subject* to the action of the *positive pole*, and may be had *cheap*. I possess, therefore, a case of seven sounds of different sizes, rising from five millimetres to twelve millimetres in diameter. Beginning with the smallest sound, sufficient dilatation may be made for the others to follow in succession, till it is found that one of them gives the coaptation required.

This is the solution of the first part of the problem, — the equal spread of a current over the whole of a large or irregular uterine cavity.

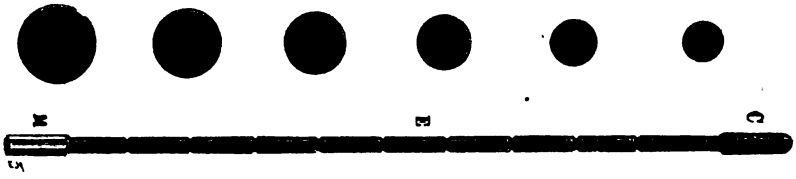
[1] *Gelosine:* Gelosine is the mucilaginous principle recently extracted by M. R. Guerin, chemist, of Paris, from the gelose of the *Gelidium Corneum*, a sea-weed of Japan, found in abundance at Singapore.

[2] Electrode for galvano-chemical cauterization, one-third of actual size.

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Second. The uterine mucous membrane insufficiently cauterized.

The coagulating or hæmostatic action, *local* and *polar*, which we seek at the positive pole, under ordinary circumstances, will be strong and efficacious according to the quantity of acid disengaged; that is, in other



C. Gas carbon 2½ centimetres long, rounded at the extremity. It is fastened by a screw to the end of the metallic stem. It may be replaced by others of the same length, but of different sizes. The diameters, gradually increasing from 5 to 12 millimetres, are represented by the shaded circles.

E. Circular grooves, at regular distances of 2½ centimetres, on the caoutchouc covering of the metallic stem of the electrode.

M. Handle of the electrode to which the rheophore is attached.

words, it will vary in proportion to the electrical intensity. Now, there are two means by which we can regulate the intensity, at the points of entry and discharge of the current.

a. The *first* is to engage a large number of elements. We may thus apply, in certain cases, an intensity of current varying from 100 to 300 milliampères. But with regard to these degrees of intensity, we must not lose sight of two considerations: the safety of the uterus and the tolerance of the patient.

If a few women are able to bear unflinchingly, without chloroform, as much as 200 or 250 milliampères, there are many more in whom it is impossible to make the dose exceed 100 or 150 milliampères. Now, in a uterus of *large size*, where it would be necessary to introduce an electrode of proportionate length, perhaps 15 or 20 centimetres long, this latter strength of current would not answer our purpose. For it is with electricity as it is with other natural forces, that power diminishes as the *surface is extended*. We see this in a watercourse, where the mechanical effects of a confined portion of the stream are reduced to insignificance if the bed be much widened.

b. This leads to the adoption of the *second* and more practical means of attaining the same end. We vary and augment the intensity at the points of contact of the poles without altering in any measure the total interpolar intensity. The surface of the active electrode must be diminished or its *density* increased.

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It is understood that, with a greater intensity in an electric circuit, the action of the two poles will be different according to their respective size. Here, then, in varying the extent of the electric surface we have the means at will of rendering the poles *active* or *indifferent*.

It is easy to make this accommodation in regard to the uterus. We wish to produce a vigorous cauterization without increasing the general interpolar intensity beyond the point easily supported: Lessen the intra-uterine electrode by one third, or fourth, or a fifth of its original length, and forthwith the cauterization or topical action at the seat of contact will be made thus four or five times more powerful.

I therefore lay it down as a rule in severe hæmorrhagic cases, where it is expedient that a patient should bear a high dose of electricity without much suffering, that the intra-uterine electrode be reduced to a very trifling length; though, under such circumstances, it is essential that it be passed from one extremity of the cavity to the other, so that every part of the mucous surface is successively and completely cauterized.

I began my operations in 1882 with a metallic sound, bare only at the extremity. In my first essays in cauterizing the mucous membrane of the uterus I had no other. Now I have improved the instrument, and my electrodes of *carbon*, though of different sizes, are all of the same length, — 2½ centimetres.

The metallic stem of this instrument is covered with caoutchouc, and on it, at distances of 2½ centimetres, lengths which correspond with that of the carbon electrode, I have slight circular grooves marked.

The electrodes are applied as follows: —

First. After disinfection in some strong antiseptic solution, in order to secure full cauterization, the instrument is driven as far as it will go, if possible, to the end of the uterine cavity.

Second. When the electrode is in this position, the highest bearable intensity of current is turned on, and we judge of the necessity of augmenting by the effect of previous operations. The intensity must be increased when the electrodes of larger volume, and consequently of more surface, are taken into use.

Third. The first stage of cauterization being finished, the instrument is withdrawn just as much as the length of the carbon, and in that situation the second cauterization is effected the same as the first, and so on, changing the position of the carbon till all the interior of the uterus is cauterized section by section.

To do this methodically the index finger is passed into the vagina, and the pulp and nail pressed on to one of the circular grooves of the stem. While, in shifting the seat of action, the other hand retires the

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sound, the index finger in the vagina remains immovable and gives information as to the extent of change of position of the electrode by the touch of the following mark.

Fourth. It is better, if possible, to cauterize the entire cavity at one sitting, letting each sectional cauterization last from *three to five minutes*, as the gravity of the case and the size of the cavity may show to be proper.

Fifth. In continuing the treatment, the duration and force of the current must be made to depend upon the effect produced by the cauterizations at previous sittings.

Sixth. It is well to be aware that, when the cauterization of the neck of the uterus is once made, the electrode, in passing through the internal orifice for further action, will occasion much more pain. I believe I was the first to mention the fact that the neck of the uterus, which is so little painfully affected by ordinary caustics, the hot iron, or the knife, is, on the contrary, very sensitive, and much more so than the body, to the electrical currents, either induced or continued.

I think, in conclusion, I may say that it will henceforth be admitted we have, in electricity, a most powerful means of safely treating fibroid tumors, and that it will, in future, be felt as a duty by the surgeon to make use of it before adopting other measures. Carrying out my method as I have directed, I am convinced it will yield to others the same new and interesting results that it has been my good fortune to witness.

THE SOFT MYOMA.[1]

BY ARTHUR W. JOHNSTONE, M.D., OF DANVILLE, KY.

MR. PRESIDENT AND GENTLEMEN: — Knowing full well that your election for this post of honor is not so much due to my own merit as to the fortunate association with my beloved master, Lawson Tait; also, having heard of your deep interest, not only in the practical, but in the abstruse, sides of our science, I have decided to bring you a part of the work in which he and I were interested, but which to many societies of general practitioners would prove an insufferable bore; so that if any of you become fatigued with these physiological studies of the uterus, he must lay their infliction at the door of Madam Rumor, and not charge them up to me, as a sample of deliberate pedantry.

[1] Read before the Ontario Medical Association, at its June meeting, in Toronto, 1888.

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The subject, of which I wish to give only the natural history, is that of the soft myoma; but please remember that I exclude all forms of sarcoma and carcinoma, and speak only of the soft, benign growth of uterus. Those of you who have kept up with the history of this subject know that, until a few years ago, this form of uterine tumor was thought to be merely one of the secondary changes of the hard myoma, and that it was believed to be due entirely to a degeneration of the newly formed muscular fabric which composes the ordinary fibroid so familiar to us all. A few years ago, however, this began to be doubted by some authorities, and what I now will attempt is to bring forward proof, that from its very inception it is an entirely distinct tumor, springing from a very different source, having separate histological and clinical histories throughout its course, and widely differing terminations. As has been proved long ago, the hard myoma is an homologous tumor of the uterine wall, the soft myoma being considered a totally heterologous condition; but what I now expect to prove is, that it is not a foreign tissue to the uterine body, but merely an homologous growth of the uterine lining.

That you may understand more thoroughly what my idea of this uterine lining is, I must refer somewhat at length to some papers, all of which form links in a chain of which this article is only a part. In August, 1881, I published a paper in the "New York Archives of Medicine," on "The Origin of the Blood Globules." It was the result of a series of studies of the spleen, the tonsil, thymus and lymphatic glands, as well as the other adenoid structures which are located along the alimentary canal. In making these studies I believe I was the first to use a high-power immersion lens in studying the development, which I then, for the first time, found going on in the ultimate fibres which compose these tissues. Throughout them all I found a new method of cell production, that is, by a process of growth of the minute dots within the fibre. The forming corpuscle bulges out from the thread-like matrix, increases its bulk and richness of granulations, until it finally separates from the parent thread a fully grown lymph corpuscle.

Though I sought carefully for months at that time, and I can now say the same as to years, I have never seen a lymph corpuscle bifurcate except in an inflamed organ. By this means I sought to establish the fact that the adenoid tissues, with this special method of development, were stored-up material, from which corpuscular supply was constantly replenished, and that on their exhaustion, as is found in extreme old age, depend the senile atrophies, and many of the other wasting conditions of the aged.

Two years and a half ago, while doing Mr. Tait's pathological work,

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I saw for the first time a healthy specimen of the corporeal endometrium. You can imagine my surprise when I found it to be very closely related to my old friends of the adenoid group. Studying it faithfully, I tried hard to reconcile its condition to the then recognized theories about menstruation. Like all the rest of the world, I had been carried away with the doctrines in regard to the variations in blood pressure, and while I had had no reason for opposing the views of the leading histologists of the past decade, like Dr. John Williams, and all others who had worked in any line in physiology, I had put one of the effects for the cause, and accepted their dogma that the blood-vessel itself, instead of being merely the means by which nutrition is brought to a rapidly growing tissue, is in reality the source from which that tissue springs.

Being peculiarly fortunate in my material, for I was frequently able to freeze and cut a specimen that Mr. Tait had removed from a living subject before there was any possible chance for post-mortem changes to take place, I obtained among these specimens several menstruating uteri, whose conditions I could in no way harmonize with the views of menstruation as taught by Dr. John Williams. Not satisfied with these specimens, which, as some might have said, had already had pathological changes, through the kindness of the staff of the General Hospital in Birmingham I was given free access to the immense mass of material which its dead-house afforded, and for several months spent my leisure time studying the life history of the human endometrium. From this work I was convinced that not only was Dr. John Williams wrong in his idea of the shedding of the endometrium, but that the endometrium itself, like the lymphatic gland, is another mass of adenoid tissue, whose function is to form the placenta. Like some other organs in the body, the hair follicles and the like, it lies dormant for the first few years of extra-uterine existence, and, like the thymus gland, finishes its course long before the rest of the economy is exhausted.

By a strange coincidence, two years ago next Saturday night week, when I gave the results of this work to the British Gynæcological Society, without either of us having the slightest idea of the contents of the other's paper, Mr. Bland Sutton read a paper on menstruation in monkeys, which, so far as it went, fully confirmed every idea which I had advanced in regard to the errors of Dr. John Williams and all those who claim that menstruation destroys, instead of purifying, the endometrium. Being satisfied, from its integral elements, that I had a permanent adenoid tissue to deal with, the question at once came up, where is its emulgent stream which washes away its ripened products, common to all other adenoid structures?

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The answer came at once: it is the menstrual discharge, and it is the spleen, and not the axillary gland to which it is most closely allied. In the herbivora, however, whose comparative anatomy I at once began studying, I found not only the same adenoid tissue, but a lymphatic apparatus which was capable of disposing of any possible amount of corpuscular growth which the cotyledons under any circumstances could produce; thus showing at once that it is the erect position which necessitates menstruation, for with loose lymphatic network, necessary to the passage of a lymph stream, the erect position of the uterus could not possibly be maintained. The lack of this lymph stream also shows the necessity for the maternal placenta being passed in toto, and not being left to be absorbed, as is the case with the diffuse and multiple, and some forms of the single, placentæ.

After these studies of the herbivora, I went more deeply into the comparative histology of the endometrium, the results of which were given to the British Gynæcological Society last June. It would occupy too much of your time to follow out at length the reasonings in that paper; but those of you who wish to see it will find it in the November number for 1887 of that society's journal. The deductions which I draw from it are that *all* endometria are adenoid, but, as there are great variations in the different forms of the placenta of the lower animals, there necessarily must be great difference in the structure of the organs which make them; and, further, that the same endometrium, particularly in the case of the dog, goes through very radical changes during the cycle of the rut, and that the cause for the widely different descriptions with which the world has been presented by different observers of the same endometrium is due to their examining it in the different stages of the cycle of the æstrus. But, for our present purpose, the principal thing that is necessary to know is, that from the ultimate fibres of the endometrium, no matter to what animal it may belong, there is a greater or less cell development constantly going on.

Last September, before the American Gynæcological Society, I reported a paper, which shows what the arrested development of this organ may accomplish, and what I now wish to give to you is the picture which its over-development produces. The first idea I ever had of the real nature of the soft myoma I got from a specimen which I helped Mr. Tait to remove. Its history was that of most other such growths. Mr. Tait had diagnosed the tumor as uterine, but had half-way suspected pregnancy on account of its extremely soft, semi-fluctuating condition. After watching it through until the term should have been fully past, he decided it to be a myoma, which must be removed. Although he had watched the

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case for more than a year, when we got the abdomen open and exposed the tumor to view, he whispered across the table to me, "I believe it is a pregnancy still." After careful examination we found it to be a soft myoma, involving most of the body of the uterus. An amputation at the internal os not only saved the patient's life, but gave me a beautiful specimen. It contained no cysts of any kind, but was composed of a loose mesh-work, whose interstices were filled with a fluid lymph, and from whose ultimate fibres a rapid proliferation was going on, so much so, that had I not known exactly where it came from, I would have thought I was dealing with a lymphadenoma. As you all know, soft myomas are extremely rare, the only other one in which I ever came in contact I removed successfully a few months since. Like the one with Mr. Tait, the diagnosis could not be made. An exploratory incision, for the relief of either a small ovarian tumor, a soft myoma, or a malignant tumor, was done, and the soft myoma revealed in the womb. So extremely deceptive was it by the sense of fluctuation it gave, that after its removal, one of my assistants, whom I know to be a well-trained surgeon, was willing to wager almost any amount that the tumor contained a cyst. On splitting open, however, we found the same loose mesh-work, embracing many lymphatic spaces, which reminded one very much of the physical conditions of a sponge.

After cutting and freezing I found much the same state of affairs as that described in Mr. Tait's specimen, the principal difference being in the presence of a greater or less number of muscular fibres distributed throughout the tumor; many places, however, showed nothing but the myxomatous tissue; other places showed the young muscle-cells of Billroth. In other places, where we had a rapid cell development which was evidently originated from the ultimate fibres, some corpuscles seemed to be separating from these fibres and floating away in the lymph; others, again, seemed to be taking on a spindle shape, and going directly on to the development of new connective tissue cells, and, so far as one can tell, to the development of a young muscular fabric.

But, in order to show you more plainly the histological relationship between the soft myoma and the endometrium, I have brought you a rough sketch of the microscopic appearance of the tumor of which I have just spoken (Fig. 6). For the better comparison with the endometrium, I have drawn it on the same scale as that used for the sketches in the paper on the menstrual organ, and here place them side by side. Any one who is at all familiar with the mucous tissues can tell at a glance to what class they all belong, and I do not think it would take a great deal of microscopical training for one to catch the relationship between these tissues; and having

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established this my object is almost accomplished, for it is the kinship of the parenchyma of the endometrium and the soft myoma which adds a pathological proof of the adenoid theory of the normal endometrium. The sponge-like interstices give free room to the large amount of œdema which these tumors contain, and it is its presence that gives the deceptive sense of fluctuation which so frequently places the abdominal surgeon in uncomfortable situations. Where the œdema comes from I think is perfectly plain.

We have known for a long time that the lymphatic apparatus of the human uterus is not very rich, and that it is the discharge through its cavity which fills the place of the large lymphatic trunks found in the lower animals. When the endometrium begins to develop backwards into the muscular wall — as the tissue for its well-being requires a greater amount of lymph than is necessary for the muscle itself — at once there begins to be a disproportion between the quantity of lymph contained in the uterus and its normal outlets. As the tumor grows, this inequality becomes greater and greater, the result soon being a drawing back of the lymph within the capsule of the rapidly growing tumor. One of the consequences of this is the formation of lymphatic retention cysts, and this, I believe, is a true history of most fibro-cystic tumors of the uterus. I have never had the opportunity of examining one of these tumors, and cannot say positively whether they embrace more than one condition or not, but am prepared to believe they are produced by two distinct histological conditions, this being one of them, and the other I would look for in the abnormal or unusual development of some of the uterine follicles. As I have shown, the interstitial tissue of these tumors is exactly that of the endometrium, and why may it not contain uterine follicles, just as it does in its normal position? These follicles may be simple outgrowths from the normal ones, dipping further back between the muscular bundles, just as the mucous tissue does. Or — I say it deliberately — they may spring directly from this mucous tissue itself. This I know, to all of you, sounds like rank heresy, and to some it may appear the "wild imagination of a fevered brain," for Remach's law has been the statute by which the whole of a generation has been judged, dissensions from which have been visited with the most dire punishments.

Even in my studenthood I was not satisfied with its dogmas, and for ten years most of my leisure time has been spent in the quiet investigations of its claims. Eight years ago — as my old sketch-book shows — I had the proof of its fallacy, but then did not understand it well enough to know even what this proof meant; but, "led on through ways we know not of, and by means we know not how," the discovery of the adenoid nature of the endometrium has helped me to understand those old draw-

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ings, and by some studies which are yet unpublished I have proof positive that Remach's law as taught by the last generation, while it has great semblance of truth, still, in its fundamental principles, is entirely wrong. I take this first opportunity, since my perfect satisfaction of its errors, of putting myself on record as a rebel to the iron-clad system which its dogmas have built up; but to go deeply into this subject would take entirely too much of your valuable time, and I must leave it with the statement that I hope soon to publish the whole in a separate paper. I think, however, I have satisfactorily shown that the soft myoma is much closer akin to the mucous polyp than to the tough fibroid of the uterine wall; and it seems to me that in our management of them we will have better success if we act in accordance with these views; for I cannot believe, until I have seen better proof than has so far been advanced, that the electric current can have much effect in the absorption of these tumors; for as this lymph forms a very large proportion of their bulk, its removal by tapping, as recommended by Firth, will give considerable relief, and where the patient is near the menopause this is frequently all that is necessary to be done; but in the truly cystic uterus we cannot hope to gain much if we do not extirpate the whole of the diseased tissue.

In closing, gentlemen, let me thank you, not only for the distinguished honor you have conferred on me by asking me to be present at this meeting, but also for the courtesy with which you have listened to my weak efforts to draw your attention to the tissues themselves, and for a short time to relieve your mind of the weary search for that "will-o'-the-wisp," the harmless germicide. All honor to the biologists who are working out and classifying the various orders of the lower grades of life, and deserving of our greatest praise are those who are showing us the true causes of fermentations, suppurations, and the like death-dealing processes; but it does seem to me that we are not only in danger of going too far in their pursuit, but that we have almost lost sight of the vital force, and are coming to look on the human body very much as we do on the inanimate contents of a gelatine test-tube; so that if, by the description of the varying tissue changes I have recalled to your memory, that opposed to these little creatures there is a force which, if properly taken care of, is capable of the most wonderful conservatism in life, and that it is our duty under all circumstances to most zealously guard it, I will feel that my efforts have not been in vain. Once more, Mr. President and gentlemen, I thank you, and hope that, as the years roll by, this, our first introduction, will ripen, not only into the respect fellow-workers hold for each other, but that it will cement the esteem in which our sister countries and kindred nations now hold each other.

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THE MENSTRUAL ORGAN.[1]

BY ARTHUR W. JOHNSTONE, M.D., OF DANVILLE, KY.

MR. PRESIDENT AND GENTLEMEN: — You will understand me more readily if I go back to a paper on the "Origin of the Blood Globules," published in the "New York Archives of Medicine" for August, 1881, and reproduced in full on page 105 of Heitzeman's "Microscopical Morphology." The central idea of this article was an overlooked method of development that is constant in the adenoid tissues, the result of which is the production of the corpuscular elements that always crowd its interstices. In this study of the spleen, tonsil, thymus, and lymphatic glands, as well as the lymph-tissues in the walls of the alimentary canal, I found that the sustentacular threads, which at 1–5 looked homogeneous, at 1–12 contained a series of gradations from a granule that was barely visible at this power up to the full-grown corpuscle.

It would take us too far afield to repeat here the rest of the arguments by which I reached the conclusion that the adenoid tissues are the matrix from which the organic elements of the blood are produced. But for our present purposes please remember that a good immersion shows the threads not to be homogeneous, but richly granular, and that these granulations show every stage of the corpuscular development.

My attention was never directed to the minute anatomy of the uterus until a few months since, when, on a pathological test, I happened to get a good section of the adult endometrium, and, to my surprise, I found identically the same thing going on that I have just spoken of.

Following up the hint, I have cut a great many uteri since, and am now thoroughly satisfied that the picture I first found was the correct one for a full-grown endometrium. After great difficulties from defective lights I have at last succeeded in getting a part of a day in which I could use a 1–30 immersion, and here is the result.

Sketch No. 1 shows the ultimate fibres of the endometrium of a full-grown woman, and demonstrates the gradation about which I have just been speaking. As near as I can make it, it is an exact copy of what the 1–30 shows, both in scale and minuteness of detail. The objection so frequently offered against conclusions of microscopical work in histological research, that the appearances seen are the result of artificial treatment, cannot hold good in the present instance; for more than once I have been able to begin freezing a uterus before its own animal heat had left it, mounted at once without staining; and in a healthy menstruating uterus the view is always the same. Having satisfied myself that the corpuscles of the healthy endometrium are never found bifurcating, as we have been taught to believe is the only method of cell reproduction, but that the developmental gradation is always

[1] Abstract of paper read before the British Gynæcological Society. *Br. Gyn. Journal*, Nov., '86.

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present, I was convinced that the tissue belonged to that class of organs whose function it is to replace the organic waste, and that it ought to be ranked with the spleen and thymus gland, instead of the vagina and bladder. This being the case, its life-history ought to be that of the cytogenic organs. Starting off on this line, I have examined the uterus at all ages, and these four sketches are the result.

No. 2 is from a child 11 years old. A casual glance would make us think that her endometrium was nothing but a thick, dense layer of fibrous connective tissue between the muscular wall and the very slight, badly developed row of round cells that take the proper place of the lining epithelium. But with 800 diam., under which these four sketches are drawn, it can be easily seen that this is not ordinary white connective tissue, which its large bundles so closely resemble. In the first place, they have no proper large, well-formed nuclei, which fibrous tissue of this age always has; but, most important of all, on looking closely at the edges of the large bundles you see that they are composed of a fine, fluffy, thread-like tissue, which the adenoid organs alone possess. A few corpuscles are dotted about through its meshes, and the little pits for the future glands are conspicuous for their shallowness.

No. 3 is the endometrium of a girl of 13, who had menstruated but twice. In it you see the epithelial covering fully developed; the fine threads are becoming granular, the corpuscles much more numerous, and the whole is much richer in the so-called protoplasmic elements, but the dense bands still remain, and one familiar with the adult tissue can see that this is only an approach towards it.

No. 4 is from a fully-grown, well-developed woman of 20. In her endometrium we have the view with which you are all familiar, and I introduce it only for comparison. In it you see everything, — bands, plates, threads, and all, — studded with their protoplasmic outgrowth, just ready to take up and nourish the ovum by forming its placenta. And at this stage we can truthfully say that the endometrium has reached the acme of its unimpregnated development.

The ruin to which old age brings it is well shown in the last of the series, No. 5. The first thing which strikes you is the absence of the large bundles and the thinness of the whole membrane; for, looking closely, the fibrillar structure seems wasted, the corpuscles are few, and the utricular follicles are shrunken and scanty. By comparison with No. 4, which is the type of the placenta-producing organ, I feel warranted in saying that the material from which the placenta is formed has been used up, and that it is a physical impossibility for it to produce an after-birth.

Thus, gentlemen, we see that the life-history of the uterine lining is analogous to that of the thymus gland. 'Tis true that this organ comes into the world in an active state, and that it is the first of the cytogenic tissues to finish its course and sink into aged obscurity; but it is equally certain that it is the type of the whole class. For, as we have long known of Peyer's patches, the tonsil and the other lymphoid structures, sooner or later they all follow its example, and, like worked-out mines, ruin and decay alone make the spot of their former activity.

So much for the characteristics of the tissue itself; now for its arrangement.

Bound firmly to the inner layers of the muscular wall, the human endometrium is perforated in every direction by the so-called glands, whose ramifications convert

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the whole into a sponge-like mass, all of whose channels lead into the cavity of the body. Its epithelial covering consists of a single layer which dips into every reduplication of the glandular canals, and thus gives a protecting coat to the soft protoplasmic tissue. I have not been able to study the comparative anatomy of this organ as thoroughly as I hope to do, and what I now say, please look on rather as the skeleton of another paper than as the conclusion of the matter.

In the only two of the ruminants that I am familiar with I find that the cotyledons are composed of exactly the same tissue that lines the human uterus, and that sometimes a thin layer of it stretches from one cotyledon to its neighbor. The epithelial covering is like the human, except that it is much thicker, often containing as many as eight or ten layers. But the great point of difference is in the immense number of lymph-canals with which the ruminants are furnished.

For our present purposes this is quite enough of the histology, so now let us see what are the proper deductions for its physiological life.

I have been fortunate enough to obtain two menstruating uteri. In one the process had been going on for a day or so, but in the other it had just begun. In neither of them could I find any lesion whatever, except the stripping off of the epithelium lining their cavities and the outer ends of the utricular follicles.

Sketch No. 4 is taken from one of them, and shows the epithelial cast separated and about to be washed away, while its fellows are already denuded. Some may say that it is not fair to make one sketch do double duty, and that there ought to be a great difference between the menstruating and quiet uterus. After the examination of two who were menstruating, and a great many who were not, with the exception of a slight swelling and loss of epithelium where the flow was going on, I can positively assert that there was not the slightest difference. I am fully prepared to endorse the statements of Engelmann that the mucous membrane is not destroyed, and consequently does not need regeneration between each flow. The conclusions at which I have arrived are quite incompatible in some respects with those advanced by Dr. John Williams, for he has in an otherwise excellent paper fallen into two errors that have led him to entirely wrong conclusions. The first is, that the specimens on which he bases his theory about the total destruction of the mucous membrane were taken from patients who had died of typhoid fever and other high temperature diseases, which are proverbial for softening and degenerating tissues. Who at this late day would think of working out the histology of the liver, spleen, or pancreas from such a source?

So, I think, we are forced to the conclusion that the strongest paper ever written on that side of the subject was started from erroneous data, and of course its conclusions cannot be trusted.

It would take too much of your valuable time here to enumerate all those observers who claim that the menstrual change involves the superficial layers alone. But I cannot pass over the fact that the whole of the lining is not used up even in the manufacture of the placenta, but that, like processional teeth, the menstrual organ keeps up its steady growth under the fully developed afterbirth. Collin and Robin were among the first to notice the growth of the layer between the placenta and the muscular wall. On page 98 of Priestley's lectures on the "De-

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velopment of the Gravid Uterus" you will find the subject well discussed, and the authorities brought up to 1860. The most satisfactory article on this subject, however, is found in the exhaustive comparative study of Professor Ercolani, of Bologna, for on Plate 10 of the atlas of illustrations accompanying the American edition you will find that sketch No. 3 settles the question beyond a doubt. So, then, we feel fully warranted in saying that this growth, once started in the higher orders of animals, under all normal circumstances, never stops, but goes on until the whole of its material is used up. Now comes the question, What becomes of the products of this growth? In two of the ruminants I have shown that nature has supplied this tissue with an abundant lymph-stream, which, in the unimpregnated state, washes away the ripe material to the general circulation exactly as it does any other lymph-corpuscle. But in woman, where, on account of its erect position, the uterus has to depend on the tenacity of its own fibres for the preservation of its shape, no such thing as loose tisue of a lymphatic network can be depended upon. So, to preserve the integrity of the uterine wall, the emulgent stream is poured into the cavity of the body and got rid of through the vagina.

The sow does not menstruate, for the same reason that the child does not. The corpuscles are so slightly developed that they do not need rapid removal. Whether there are more than these three conditions in the animal kingdom I am now unable to say; but by this negative kind of proof I am ready to corroborate Ercolani's statement, that the change necessary to the formation of the placenta must be much greater in some than in other animals. In an excellent paper, Dr. Avéling has propounded the extremely ingenious theory of nidation; but it has this misfortune, that the conclusions of the observers quoted by Dr. Aveling, and the observations on which he founds his theory, are entirely erroneous.

The microscope confirms the long-known clinical experience that the nest is always ready, but that, like everything else about a woman, there are times when it is better for a clearing out. The well-known fact that pregnancy is much more apt to occur directly after menstruation has always been a stumbling-block to the acceptance of the denidation doctrine, for I am sure that no other female will lay in a nest directly after she has destroyed it. Therefore the simplest definition of menstruation is a periodic washing away of those corpuscles that are too old to make a placenta. Stripped of its epithelium, the endometrium reminds one very forcibly of the sponge-like tissue of the lymph-glands, and it is very easy to see how like the lymph-stream the menstrual blood creeps through its meshes and washes away the corpuscles exactly as it is constantly doing in the spleen. It may be urged against the views I have advanced, that if this is an independent organ, how is it that the removal of the uterine appendages puts a stop to its functions? My answer is, How is it that section of the chorda tympani practically destroys the submaxillary? or the excision of a piece of the great sciatic eventually results in the shrinkage, if not in the sloughing, of the whole limb?

As shown on this floor by our world-famed president, the closer you get to the uterine body with your excision the more sure you are to stop menstruation; so also the more sure you are to extirpate the whole of the nerve-plexus embodied in the tube and broad ligament, thus completely isolating the endometrium from the

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trophic and vaso-motor centres which control it, as they do every other organ. The fields of clinical generalizations that this view opens, such as the infantile uteri, the disorders of menstruation, pregnancy, and new growths, are extremely inviting.

One year after this paper was read I gave to the same society a paper on "The Endometrium in the Cycle of the Rut," which contains some studies in its comparative anatomy, and which assists somewhat in the understanding of its life.

So I here add the conclusions to which that paper brought me, in the hope that they may help others as they have me.

The conclusions, therefore, to which I am led, concerning the life-history of the endometrium, are, that it is a mucous structure in the truest histological sense, and while it is not in any animal merely a protecting coat, still, in some, the corpuscular development reaches a higher grade of exuberance than in others. The necessity for this variation is accounted for by the different amounts of work entailed upon the endometrium in the manufacture of the different kinds of placentæ.

In the diffuse placenta, as found in the mare, the alteration necessary to the formation of Ercolani's "glandular organ" is very slight; the consequence is, the removal of the maternal portion of the placenta is much more easily effected, and the return of the rut is at a much shorter time in the mare than in any other of our domestic animals.

The multiple and single placentæ are much more complicated affairs, and the labor necessary to their elaboration is much greater, the consequence being the return of the rut with much more delay in the cow and in the dog than in the mare. In woman, however, where the rut may be said to be sempiternal, the endometrium must be kept in a condition ready to take up and nourish the ovum at a moment's notice; as her placenta is by far the most complicated of all, her preparation for its manufacture must be the most elaborate of all. As has been shown in my former paper, the erect position will not permit the use of lymphatic vessels in the construction of the uterus. The consequence is, the maternal organ cannot be absorbed, but is thrown off with the fœtal envelopes, and passed out through the vagina. Ercolani has proved that in the other upright animals, such as monkeys, apes, and the like, the same conditions exist. The two great conclusions that I would draw from this work are, first, that the preparation of the endometrium for the reception of the ovum is of as much importance in that group of phenomena known as the rut, as is the escape of the ova from the Graafian follicles and their progression into the uterine cavity; and, secondly, that the one plane on

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which all the various phases of the mammalian endometric development depend is the medullary state through which they all must pass before the placenta can be formed.

I feel that I have already taken up so much of your valuable time in the physiology of the endometrium, that it would be an imposition on you now to give *in extenso* its clinical and pathological deductions. But, fortunately for me, your late president, my honored preceptor, in his retiring address, has so fully anticipated me in presenting the practical side of the subject, that all that remains for me now to do is to confirm the views he then expressed.

In a case of arrest of development, of which I now have in my possession the specimen, the uterus measures barely two inches, and the woman from whom it was removed, though aged 39, and an unusually large and fine-looking woman, had always great irregularity and difficulty in menstruation. It was one of those queer, and formerly inexplicable, cases when sometimes there would be for a period of several years total arrest of menstruation; at other times she would be comparatively regular for a year or so. The microscope showed her endometrium to be between the conditions shown in my paper on the menstrual organs of eleven and thirteen; so that, after all, the poor creature had gone through life trying to menstruate with an endometrium that was not far removed from the condition of the pig's, but with the one great exception, that she had little or no lymphatic stream with which to relieve the tension.

This adenoid view of the endometrium, and its method of forming the placenta, at once explains to me the mechanism of membranous dysmenorrhœa, and the formation of uterine moles. By some irritation it gets a false start, and the attempt is made at a rudimentary placenta; so that, after all, they are merely slight perversions of a physiological function. The cure of chronic and corporeal metritis by the curette, chemical irritants, actual cautery, and other powerful revulsion, is accomplished not only by the mechanical removal of the indurated tissue, but by these proceedings the tissue is returned to the medullary state, and from the fresh start the tissues resume their normal condition. As I can testify by personal examination, the soft myoma is nothing but an homologous growth from the adenoid uterine lining. In such a case, where I assisted Mr. Tait to remove, and subsequently made a careful study of the specimen, I found it to be merely a lymphoma. The production of mucous polypi is another phase of the same form of homologous growth. The bearing of this new idea of the endometrium on its heterologous growth, Mr. Tait has so well explained in the address referred to that I must pass it with a mere mention.

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Further elaboration of the solution of these time-worn riddles I fear would become tedious, but I cannot close without once more stating my view that the uterus, instead of being a mere appendage to the ovary, is as much a specific organ as the ovary itself, and its independence and totally distinct functions we now as thoroughly understand as we do those of the matrix of the egg. Its association with ovarian activity is that of two separate departments of an army, each of whose work must be thoroughly accomplished before the one common object can be attained. They are both controlled by branches from the sympathetic system, and, instead of their action being determined by each other, their orders come from that higher power which controls all functional activity. It is equally ridiculous to claim that the hydraulic laws of the vascular system will explain the action of the endometrium, for it would be just as rational to say that the variations in the pressure of factory hydrants are the means by which the work of the factory itself is done.

Further, I am of the opinion that the great difference between the human animal and the higher apes on the one hand, and all the lower animals on the other, is due to the presence of a rich lymph-stream in the latter, and its absence from the former. The necessity for this difference, as already explained in my former paper, is the erect position in the one, the horizontal in the other.

In closing, let me once more thank you for the uniform courtesy with which you have listened to my feeble efforts, and to express the hope that the time is not far distant when we shall have a completely classified and tabulated statement, not only of the zoölogical variations in the endometrium, but also a complete history of its transitions through the cycle of the rut.

THE AMERICAN CONGRESS OF PHYSICIANS AND SURGEONS.

THE meeting of this body, composed of men eminent in every department of medicine, was a decided success. Not only were the papers presented in the special societies, or sections, of great interest and value, and ably discussed, but it was found possible to bring the whole body together for evening sessions, where questions of general scientific interest were debated before an audience such as has not heretofore been collected at any medical gathering in America.

No time was lost in legislative or parliamentary discussions, as all such matters are settled by the separate societies composing this pan-

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specialist federation. Our readers will, however, be interested in one ruling or decision of the executive committee of the Congress, which is of importance in gynecological circles.

As stated in this journal (November, 1887, p. 79), the American Gynecological Society, at its last meeting in New York, in 1887, did not adopt the report of the committee which recommended that it join in the formation of a Congress of American Physicians. Nevertheless, reflection convinced the members that it would be better to reconsider this action, and therefore the meeting for this year, which was to have taken place in Boston, was held in Washington, and the American Gynecological Society appeared as an applicant for admission to the Congress at its first meeting. Meanwhile, however, a new body, the "Society of American Obstetricians and Gynecologists," had been formed, avowedly with the intention of completing the list of special societies represented by the Congress. This new society comprised some of the ablest and best men in the country, who, for one reason or another, had never come up as candidates for admission to the American Gynecological Society, with various other gentlemen of more or less prominence. The new society also met in Washington, and applied for admission to the Congress; and the rather peculiar spectacle was afforded of two bodies in session at the same place and time, each claiming a national organization, and each discussing, as happened several times, the same subject at the same hour.

A very delicate duty devolved on the executive committee of the Congress, in deciding whether both societies should be admitted, and, if only one, which should be preferred. The decision would obviously be a precedent of the greatest importance.

In his address the president of the Exec. Com. of the Congress, Dr. Wm. Pepper, stated that it was felt that the multiplication of special societies would be nothing less than a calamity. In this opinion we think he will be supported by the profession. It certainly would belittle the Congress if in future each specialty, or section, were to be represented by two, three, or more societies, each more or less hostile to the other. Taking human nature as it is, however, a tendency to subdivision, or proliferation, of special societies is inevitable; but certainly it can expect but little encouragement from the representatives of the older societies. The executive committee, therefore, decided that no societies would be admitted to the Congress except by the *unanimous* vote of the representatives of the societies already composing the federation. Under these circumstances, and according to this rule, it is not to be wondered at that the American Gynecological Society was admitted to the Congress, while the Society of American Obstetricians and Gynecologists was rejected.

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This action, however, by no means necessarily destroys, or even cripples, the new society, the future of which will depend very much on the action of the American Gynecological Society. It is evident that, with a roll of only forty members, many of whom are of an age where they may justly feel excused from active surgical and literary work, the latter society cannot represent, effectually, the growth, and power, and energy of gynecology in a nation of sixty millions, or more, of people. This feeling evidently prompted the president, Dr. Battey, in his address to the society, to urge the filling up of its ranks to its limit of one hundred, by allying to itself the worthier and abler members of the profession throughout the country. If this wise and prudent policy be carried out, ignoring personal hostilities and local rivalries, and seeking only for talent and worth, the American Gynecological Society will maintain and increase its well-earned reputation, and render any rival society impossible by attracting and obtaining as members all the men in the country who would have sufficient talent, character, and energy to make a rival society respectable. Such an enlargement of membership would include many or most of the members of the new society, leaving out the few, who, from lack of the qualities just mentioned, or owing to any other good and sufficient reasons would not be desirable as members.

In regard to the scientific work accomplished at the Congress, and coming within the scope of this journal, it may certainly be said that it was valuable and interesting.

The great medical weeklies have already published abstracts of the proceedings, so that it would be unprofitable to try to reproduce all this matter here. We are able to publish in this number the paper of Dr. Price in full, and in the next that of Dr. Opie, somewhat condensed, both read before the Society of Obstetricians and Gynecologists, and samples of the admirable work accomplished there.

In our next number will be a full abstract of the remarkable paper of Dr. Senn, on intestinal obstruction, which formed a chief feature of the first general meeting of the Congress. Other papers, or extended abstracts, will be published subsequently.

In lieu of a consecutive report of all the proceedings, some observations on the nature of the work accomplished may be of interest.

In the first place, it seemed clear, from listening to the discussions and from conversation with members, that the operators, or the men who trust to and employ surgical measures, are gradually differentiating themselves, in the great cities at least, from the men who are most interested in "local treatment," and most accustomed to depend on it. This is not only a matter of temperament and opportunity, but depends on differences of

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opinion and belief in regard to the pathology of pelvic diseases, and somewhat on the class of patients among whom each man is accustomed to practise.

This difference of point of view was felt in the discussions on the papers on pelvic abscess, read by Dr. Sutton in the American Gynecological Society, and for Dr. Clinton Cushing in the Society of American Obstetricians and Gynecologists. To some the pelvic abscess is an extension of a cellulitis, a softening of an exudate in the broad ligament, to be reached through the vagina with knife or trocar, emptied, irrigated, and drained. To the newer school of abdominal surgeons the pelvic abscess is dependent on a purulent salpingitis; it is intraperitoneal, a series of pockets of pus roofed in by adhesions and matted intestines and surrounding tubes filled with pus. For them the opening by the vagina is only a temporary expedient, to be used only when the pus absolutely points in the vagina. Even when so evacuated and drained they maintain that the woman is not cured permanently until the offending tube is removed.

Men like Wylie and Polk and Price abhor the dangerous and blind search after pus with aspirators and trocars far into the tissues in the vault of the vagina. They prefer to open the abdomen, shell out the tubes and abscess sac, break up pockets, wash out the abdominal cavity, and drain from above through the abdominal wall. They are justified both by a correct pathology and by the results of their operations.

DRAINAGE IN ABDOMINAL SURGERY.[1]

BY JOSEPH PRICE, M.D., OF PHILADELPHIA, PA.

In times past the subject of "Drainage" in abdominal surgery has been a moot question, and at the present is still under discussion. There are those who ardently advocate it; there are those who in great part reject it; there are those who, Laodicean-like, are lukewarm concerning it; and finally, some who, without convictions, either for or against it, use it or dispense with it, as chance or whim, not logic, may determine. It will be the object of this paper to offer positive convictions on the matter, arrived at theoretically and practically.

Among the working men of the profession it is that are found the antipodes of opinions concerning this question. Herein lies the impor-

[1] Read before the American Association of Obstetricians and Gynecologists, at Washington, Sept. 18, 1888.

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tance of arriving, as nearly as may be, at positive, nay, even dogmatic, expression and adoption of settled methods and rules of procedure concerning it, — such, for instance, as are laid down and adopted in trephining, herniotomy, amputations, and the like. This would not be true if the discussion were restricted to theorists without experience, with zeal, but without knowledge. Theory, or preconceived opinion, in surgery, no more determines a question than did ancient geography correctly map the world.

Illustrative of the diversity of opinion concerning the use of drainage, we have the following: Says one operator, "I do not apply drainage in ordinary cases of ovariotomy," etc.; says another, "So confident am I as to the value of the drainage-tube, and so little afraid of injurious results, that I use it on the slightest excuse." Parallax so great must have as its cause widely separated points of view. If one operator has uninterrupted success with the use of the drainage-tube, and another, from his experience, distrusts it, there must be a common point of view from which to arrive at conclusions concerning this divergence of results. It will not suffice to say it is not used in ordinary cases, nor "in most cases with adhesions, owing to the absorbent power of the peritoneum" to remove secretions. Before such opinion will stand, it is necessary to determine and to agree upon a definition of "ordinary" cases, and to decide in how many cases the peritoneum will refuse to rid its cavity of the exuded fluids from broken up adhesions.

If the tube has no injurious effects, it is better to use it in every case than to risk non-absorption in a single case, which may have been thought to be "ordinary," but which has turned out the reverse.

Here it will be seen the question resolves itself into one of logic, not predilection. First, Is there a danger from the retention of fluids in the peritoneal cavity? Second, Is the use of the drainage-tube a safe means of obviating these dangers? If the tube involves in its use an element of danger, what are the comparative dangers from its employment or its omission? That the peritoneum will in many cases relieve itself of exuded fluids goes without question. Experience has also shown that when it refuses to do so unaided, the free use of salines often assists it, and cuts short an attack of acute peritonitis. Experience also shows that this mode of treatment often fails, necessitating the reopening of the abdomen, thorough irrigation, and the secondary use of a drainage-tube, even though no pus has been discovered on the reopening. The fallacy in supposing an operation simple because no great adhesions have been involved, lies in the fact that great secretion can arise from small adhesion, and that blood exudation, which seems nothing at the close of an operation, may, when the

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patient rallies from the shock of ether and the operation, become very considerable. A case illustrative of this last danger has lately come under the writer's notice. The adhesions were very dense, but not extensive. At the close of the operation the blood exudation was almost *nil.* A tube was, however, introduced. The wisdom of so doing became evident as time progressed, inasmuch as for ten days there was free exudation of blood, such as never could have been absorbed by the peritoneum.

A second fallacy occurs in determining the so-called "simple" cases. Operation discloses an inflammatory condition of the tubes and ovaries. There are very slight adhesions or none. The diseased structures are ligated and removed, and the abdomen closed. No drainage is used. Peritonitis sets in. If recognized in time, reopening, irrigation, and drainage may save the patient. Recriminating himself, the operator reviews each step of the operation, and sees no loop-hole for infection. He has looked on the wrong side for the infection. No one at an operation can decide whether an inflammation is simple, purulent, or infectious and specific. In many cases apparently simple I believe peritonitis arises from such cause, and herein appears a still further justification of the cautery, which Keith so much prefers. A touch of the cautery on a doubtful tube, in many cases, decides between slow recovery from peritonitis and a rapid convalescence without a bad symptom.

The same favorable result often follows simple drainage, which removes the pabulum of infection.

In cases of severe hemorrhage, or vast adhesion, the use of the drainage-tube is not questioned, so I pass on to another consideration of the matter.

Does the use of the tube involve a question of danger? It is held by those who oppose the tube, and by those who are dubious concerning its use, that infection may follow its introduction. My answer is, were half the care used to keep it carefully cleansed, and to protect it from external interference, that characterizes the gatling-gun warfare against germs supposed to enter through it, there would be little cause to fear it. Keep the tube clean, empty it often, remove it by degrees, commencing as soon as the discharge seems to be a minimum, and in most cases no more irritation will be caused by it, or with it, than some inadvertence will explain. When an entire pelvis can be packed with lint to subdue hemorrhage, is it possible that a simple glass tube can cause such trouble as is frequently attributed to it? The involvement of the peritoneum, inth e perforations of the Bantock tube, has been used as an argument against this excellent means of applying drainage.

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This fear has some foundation in fact. I believe, however, that the danger referred to may be obviated by a careful packing of the tube, or more exactly, by carefully introducing the cotton dry, as tightly as possible, then when it becomes wet, it of itself will fill the perforations, thus eliminating the danger of omental involvement. I have never had this condition in my own work, although it has come under my observation. As to the use of the tube, my own experience teaches me that when kept clean, by frequent changing of the cotton, and with careful attention to that part of the incision through which it is introduced, there is not the slightest danger of septic infection from its use. This conclusion is reached after its application in extreme cases of pelvic adhesion, extra-uterine pregnancy, hysterectomy, pus tubes, and (so-called) simple operations. I have never had a single fatal case in which I could justly attribute the result to the use of the tube. On the contrary, I have seen more than one case where its absence has been followed by mischief which was relieved by its introduction. I have seen cases, too, where I believe failure was due to its omission. This latter belief may be prejudice, but the advantages I have observed and experienced as a sequence to its use do not admit of doubt or question in my own mind. Concomitant with the question of drainage comes its adjunct, irrigation. This procedure is not opposed even by those who oppose simple drainage, they not seeming to fear it in any way. I myself believe it of the greatest possible use to insure complete removal of *débris*, clots, and shreds. Pouring the water into the abdominal incision I do not consider so efficacious as its introduction by the "Alpha" constant-current syringe. I am in the habit of introducing the nozzle of the syringe into the lower angle of the incision, while with two fingers of the other I retract the intestines, thus giving free exit to the current. In this way the entire abdominal cavity can be thoroughly drenched. As to the method of drainage suggested by Professor Martin, *i.e.*, through the vagina, I cannot understand either its philosophy or its advantage. To close the abdominal cavity in the ventral incision, in order to find reason to enter it through the vagina, seems to me little more logical than to endeavor to escape miasm by closing the pipe of a stationary washstand and follow with tapping the sewer with which it communicates. If drainage be decided upon, the site of the incision, as already indicated, offers all that can be desired. As to the use of solutions, that has had its day, and hardly deserves mention. I speak of it now simply to call attention to the mischief it has caused in the past, and to express the belief that much of the intestinal pain frequently met in cases operated upon a few years ago, is due to adhesions resulting from the use of solutions, especially carbolic acid. Less than six weeks ago I assisted in an operation on such a case, the adhe-

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sions being simply universal throughout the entire length of the great intestine. I surmised that carbolic irrigation had been used at the previous operation (this was her third), and was afterward informed by the operator that I was correct in the opinion expressed. As to the time for the removal of the tube, nothing should influence this more than the nature and quantity of the discharge. When this is clear, and sweet, and scant, the indications are for removal. It has been held that the introduction of the tube delays union, and increases the danger of ventral hernia. This I am not inclined to believe. Ventral hernia, I believe, in most cases, results from two causes. First, a very long incision; and, second, getting up too soon and abandoning the abdominal bandage too early. A short incision, and due care to keep the patient in bed a sufficient time, together with abdominal support through a period of months, will, in most cases, obviate this *bête noir* of abdominal surgery.

I have thus briefly set forth my ideas of the use of the drainage-tube, which, epitomized, may be stated as a surgical procedure, which, without danger, eliminates to a great extent the danger of abdominal surgery, infection through the peritoneum. I believe the dangers referred to in connection with the tube are chiefly theoretical, and for the most part imaginary, and where they are real, that they can be obviated and minimized to an extent which renders them of trivial importance compared with the risk that is run with the omission or infrequent use of the tube in pelvic surgery. My own practice is in harmony with this belief, and my results with the tube justify the faith I place in its utility.

Any omission of essential points, I trust, will be referred to in a discussion of this paper. My intention has not been to exhaust the subject, but only to bring forward its strongest points as they appear to me.

500 NORTH TWENTIETH STREET.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

THURSDAY, SEPTEMBER 6, 1888.

J. C. DA COSTA, M.D., in the chair.

Dr. WILLIAM GOODELL read a paper entitled "A Year's Work in Oöphorectomy."

During the year 1887 he had had nineteen cases with one death; but, including the cases he had since had, there was only one fatal result in twenty-nine cases. The cause of death in this fatal case was uræmic coma, from suppression of urine. How far the administration of ether was to be blamed for this renal complication he was not prepared to say, but he was inclined to think that chloroform was not so

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liable to cause congestion of the kidneys. The operation was performed for diseased ovaries and tubes, which were greatly crippling her.

The eighteen successful cases were performed for the following reasons, and with the following results: —

Uterine fibroids, cured, 5; improved, 1.

Menorrhagia and ovaralgia, cured, 2; improved, 1.

Ovaralgia, cured, 3; improved, 1.

Epilepsy, improved, 1.

Hystero-neurosis, cured, 1.

Insanity, unimproved, 2.

Pseudo-muscular hypertrophy, unimproved, 1.

In his experience, the removal of the ovaries for uterine fibroids is almost always followed by a cure; that is to say, menstruation ceases, the tumor rapidly lessens in size, and no further inconvenience results from bulk pressure.

Of the three cases of menorrhagia associated with ovaralgia, the lack of complete success in one was due to the fact that only one ovary could be removed. The other ovary was so matted in organized exudation as not to be distinguishable.

The failure in one of the cases of ovaralgia was due to the persistence of menstruation after a thorough extirpation of both ovaries. This is a very rare result, but it will occasionally happen. Menstruation usually ceases in these cases after the lapse of a few months.

In the case in which the ovaries were removed for epilepsy, the result has not thus far been a cure, but the attacks come at longer intervals. Hardly time enough has elapsed for the woman to reap the full benefit of the operation, for she still has regular catamenial molimina, accompanied by bloody expectoration.

Time enough has not yet elapsed to decide whether the two insane patients will be improved or be cured by the operation. Each one was an invalid, and each one became physically well, but not mentally so. In Dr. Goodell's experience, which has not been a small one, those cases which exhibit aberration of intellect only during the menstrual periods, will almost always be cured by the removal of the ovaries. But cases of insanity, in which the hallucinations are continuous, yet much exaggerated at the catamenial periods, are by no means so likely to be cured by the operation, although they are generally very much improved. In any case, about two years' time must elapse before the nerve perturbations of this artificial change of life wholly disappear, and a cure should not be expected before that lapse of time. What is true in mental cases, and in purely nervous ones, is also true in a measure when even coarse lesions of the ovary are found. Hence the surgeon must not look for full results, or for complete freedom from groin-aches and pelvic pains, directly after the removal of even diseased ovaries and tubes. He must wait patiently for the ovarian nisus or habit to cease, until, in fact, the menopause has been wholly and fully established in every way.

In the foregoing nineteen cases the spray was not used, but every other antiseptic detail was carefully carried out. The pedicle was tied with silk; the wound was closed by the same material, and dressed with gauze dipped in a glycerole of bolic acid. Drainage was employed but once, and that in the fatal case; but this

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had nothing to do with the issue. Eleven of the cases were treated at his private infirmary, seven at the Hospital of the University of Pennsylvania, and one at the patient's own home.

Dr. H. A. KELLY liked the moderate tone of the paper just read. He believed that here, as in other fields of work, we must be often satisfied with relative results. He liked the term "Ovaralgia" now better than he once did. Until we are better able to differentiate the exact nature of the lesion in some of these cases, he thought the term "ovaralgia," used generically, is a good one.

He had a rare case of salaam convulsions, which had been treated for a long time. He had been called in to decide the advisability of an operation, and had refused to remove the ovaries. Two years later the ovaries had been removed and the patient cured. There did not seem to be any distinct connection between the pelvic and general condition.

Dr. M. PRICE asked Dr. Goodell if, in these operations, he had ever noticed on ligation any change in the number of the heart-beats. He had several patients in whom, on the evening of the day of operation, he had found the pulse as low as 48. He had noticed somewhere that an operator found a drop of the pulse from 80 to 35 on ligating the ovarian nerve. Since then he had had the pulse-beats counted on a number of patients at the time of the ligation, and had found a drop of only 4 or 5 beats at most.

Dr. J. PRICE said that Dr Johnstone, of Danville, Ky., had dwelt on the matter of slowing of the pulse very fully.

He thought that the explanation of continued pain after an operation was to be found in the adhesions of the intestines, etc. Some of his most satisfactory results had been obtained in cases of extensive adhesions. In a recently reported case the patient had complained of agonizing abdominal pain. An adherent omentum and a knuckle of intestine had been separated, and complete relief obtained. He had operated in a number of cases where the only lesion found was a general adhesion of the whole mass of intestines. He had thoroughly separated them, and had obtained most satisfactory results. Mr. Tait has repeatedly reoperated to free adhesions. He felt that operation for nervous disturbances was of very doubtful benefit, and he never operated unless he found actual disease. He preferred handing the patient over to others.

Dr. M. PRICE related a case in which the whole trouble was due to adhesions. It was supposed to be a case of gall-stones. No disease and no gall-stones were found, but the intestines were matted together. The adhesions were released, and no pain was felt afterwards.

Dr. JOSEPH HOFFMAN. — Dr. Price has referred to lowering of the heart-beat after application of the ligature. In a case of his own, the pulse, which on the day of operation, before ether had been given, was 120, had gone down in a few hours after the operation to 58. After ten days it crept up to 80. This low register of 56 to 58 was sustained even in spite of the temperature being 101° or 102°.

Dr. B. C. HIRST had operated on a case in which a small portion of one ovary was left. The case had ceased menstruating even in spite of the part left behind. A stitch had passed through the remaining piece.

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Dr. W. S. STEWART wished to know the effect of removal of both ovaries on menstruation. If, at the time it should occur, there were any evidences, such as acceleration of the pulse, etc., as seen at the menopause.

Dr. WILLIAM GOODELL had referred to the point suggested by Dr. Stewart in his paper, and he said that just such symptoms appeared in these cases as appeared after the natural menopause. The full results were not obtained until after these ceased. He had never noticed a fall in the pulse-beats as referred to, but he had often seen serious collapse follow the pinching of the ovary. He had seen the temperature fall to 97°, and in one case below this. He thought that a counterfeited aneurism was by no means an infrequent symptom of ovarian disease. He had had a patient from a distance suffering from ovarian enlargement, aortic pulsations, and other nervous disturbances, for which he prescribed; afterward a local surgeon insisted that she had aneurism. A second examination convinced him that such was not the case. This was afterwards made evident by her passing through an exceedingly difficult confinement safely. There are two conditions in which he was willing to operate for the removal of the ovaries, although he found no disease. One is *epilepsy*, the other is *insanity*, for in these cases a woman should never conceive. He believed that the State should interfere to prevent men and women who suffer from epilepsy or from insanity from getting married. Indeed, he is not sure that the day may not come when, by act of Legislature, an insane man will be castrated, and an insane woman will have her ovaries removed. He has had a good deal of experience with removal of the ovaries for insanity, and has had some happy results; on the other hand, he had been disappointed at times. In cases of epilepsy, he had not had so much experience. He wished that gentlemen who have had such cases would report them.

Dr. C. M. WILSON had had three cases such as spoken of by Dr. Goodell. In two the result was negative. One patient was apparently benefited for some months, but recent reports say that there is a gradual relapse into the former condition.

Dr. H. A. KELLY had, about three years ago, operated on a girl with a brachial paresis, resulting from infantile palsy, with also epileptic attacks, pre- and post-menstrual in character. For some months there was no improvement, but lately she has become better.

Dr. Kerlin had remarked to him that if in a good many of these cases of hopeless idiots, operations were performed, removing the respective organs during the period of active growth, they would not develop some of their worse features, and would be more easily managed.

Dr. J. M. BALDY had a case, which, at the time of operation, looked like true epilepsy. There was excessive pain, vaginismus, and other symptoms. The pain was relieved, but not the vaginismus, for which a subsequent operation was performed. The epileptic attacks had continued. They were, however, becoming much less frequent than formerly. Some two years had now elapsed.

Dr. J. PRICE operated on a patient with double pyosalpinx and epilepsy at the menstrual period, and at no other time. The recovery was complete and the relief absolute. Some ten months after she went to another institute, complaining of pain,

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and was again opened. He wished to know whether or not in these cases convulsions come on during the period in which the patient is in bed, after operation.

Dr. JOSEPH HOFFMAN had a case of three months' standing, which suffered from hæmato-salpinx and suppurating appendix. The patient had been having epileptic attacks. She has been entirely free from them since the operation.

Dr. W. S. STEWART said that he did not think that the ovaries should be removed in all cases of epilepsy, as suggested by Dr. Goodell. He had an epileptic patient whom he had confined several times, and whose children showed nothing wrong about the intellectual development.

He had removed the ovaries of a woman suffering from epileptic seizures, and she had received no benefit from the operation. She is now in an insane asylum.

Dr. GOODELL said that there was no disease so likely to be inherited as epilepsy and insanity. If Dr. Stewart lived long enough he would find the children referred to develop the disease.

Dr. H. A. KELLY reported a "Case of Cæsarean Section."

He operated April 17, of this year, delivering a living child, and saving the life of the mother.

The patient, a slight woman, four feet four inches in height, had been in labor two weeks, her physician, Dr. Ireland, having watched by her bedside constantly for nine days previous to the operation. The waters ruptured four days before operation.

The estimated actual conjugate diameter was two and a quarter inches, although the pelvis was so choked by general œdema and hard cellulitic masses that it was impossible to recognize any structures with satisfaction, much less reach the presenting part of the child.

The patient's pulse at the time of operation was 142. The operation lasted thirty-five minutes. The after-condition and convalescence was one of comfort and rapid recovery.

This makes the ninth case operated on in Philadelphia, the first being by Professor Gibson, in 1835, the historic case of Mrs. Reybold.

Dr. Kelly stated that he had since that time also operated upon another case for a relative indication, in preference to performing craniotomy upon a living child, with the result of saving both mother and child; this question, however, of the relative indication was one of such importance, deserving such careful consideration, that he would reserve it for a more elaborately prepared paper at a future date.

Dr. JOSEPH PRICE read a paper on "The Abuse of Cæsarean Section."

On the legitimacy of the Cæsarean section there cannot be now, under certain restrictions and limitations, a question. In extreme cases, where hasty operation is necessary in order to save the life of the mother, where there is impaction, or where there is a tumor blocking up the uterine or the vaginal outlet, discussion or hesitation has little place, and he can operate best who has all resources at command and acts without hesitation.

The real points for discussion as regards the necessity of the Cæsarean section, in order to terminate a labor with greatest safety, first to the mother, then to the child, are, first, "*The degree of contraction in the pelvis;*" second, "*The ad-*

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vancement of pregnancy;" third, "*The chances for the induction of premature labor.*" As to the first: as an epitome of the latest generally received opinion, we have the statement of Greig Smith: "The operation [Cæsarean section] is said to be justifiable when the contraction is so great that we cannot expect to deliver the fœtus *per naturales vias*, with or without embryotomy, and save the mother. The degree of contraction is generally stated as one and a half inches and below, but in cases in which much distortion exists, may have an upward limit of two inches."

Here, then, is a plain expression of conservative opinion as to the degree of deformity necessitating or justifying the operation. "As to the induction of premature labor," says Playfair, "there are few practitioners who would not deem it their duty to spare the mother the dangers of the Cæsarean section," this being especially true since "there is no amount of deformity, however great, in which we could not succeed in bringing on miscarriage by some of the numerous means at our disposal."

The time at which premature labor should be brought on varies, of course, with the degree of deformity of the pelvis. The tables of direction have been admirably constructed by Kiwisch. Briefly, the period for induction of labor lies between the thirtieth and thirty-sixth week, and the corresponding sacro-pubic diameter varies between two inches and six lines and three inches and five or six lines.

Here, then, naturally follows a discussion of the means for inducing premature labor. Of the many methods proposed at various times, the one seemingly the best is the use of the soft catheter. Its introduction well into the uterus, for a distance of six or seven inches, is an almost certain means of speedily producing labor-pains safely.

I consider the British rule, that Cæsarean section should never be an operation of election, but one of necessity, in general terms, as the safeguard of puerperal women. Once establish the precedent that the Cæsarean section is an elective procedure in obstetrics, and thereby lay down also the principle that abdomino-uterine section is a safer procedure than the introduction of a soft catheter into the uterus before full term, the way is laid open to every aspirant for obstetric fame, who is the fortunate possessor of a knife, to find cases for his zeal at every court and corner in the city, if, perchance, he can of himself persuade the parturient woman of the necessity of delivery by "*the new natural method of delivery.*"

An axiom as to the operation is laid down by Lusk: "The precise limits at which the dangers of delivery through the pelvis rise to the level or exceed those from Cæsarean section is not easy to determine. It depends partly upon the size and ossification of the child's head, and largely upon the experience and dexterity of the operator." The converse of this proposition is true also, the greater the experience, and the more careful the observation of the operator, the less frequently will he be led to resort to Cæsarean section, if he hold in mind that it is an operation of necessity, not of election.

Two cases will illustrate the dangers here referred to, and the justness of these forebodings. *Case first.* — A woman, already delivered of a living child, yet living

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at four years. Three other deliveries at term with the forceps. All of these children dead. No attempt at premature labor. In the fifth pregnancy she is decided upon as a case for Cæsarean section. She passes into the hands of another attendant, who, after careful pelvic measurements with a consultant, decides on premature labor. The woman delivers herself, without instruments, of a child whose head has a biparietal diameter of three and one-fourth inches, the period of gestation being eight and a half months; the previous measurements of the pelvis having decided upon an antero-posterior diameter of three and one-half inches.

Case two is an actual operation. A woman in third pregnancy. First child delivered after thirty hours' labor with instruments, dying soon after birth. Second pregnancy: She delivers herself of a child of normal proportions *at full term — without instruments.* The child yet living. Third pregnancy: *Cæsarean section.* Recovery after protracted convalescence. Child still living.

Here are lessons full of instruction. What do they teach?

Dr. M. PRICE thought that the duration of labor had nothing to do with the choice of Cæsarean section. He had delivered a woman two weeks since who had been in labor seven days. It was an occipito-posterior position, and the cervix did not dilate more than enough to permit the introduction of two fingers. He introduced his hand, dilated the os, and applied Simpson's forceps. The delivery occupied an hour and a half, but the woman made a good recovery. Had the case been delayed a few days longer, there might have been a necessity for Cæsarean section. Where there is an inflammatory and œdematous condition of the pelvis, he thought there should be some forcible measures adopted for the delivery of the patient.

Dr. WM. GOODELL thought that the title of Dr. Price's paper was not a fortunate one, for the gentlemen who are called upon to perform Cæsarean section are usually not the attending physicians, and they have had nothing to do with the previous medical attendance on the patient. He believed in the induction of premature labor, and would do it in preference to the performance of Cæsarean section; but often the patient herself will not submit to the induction of labor. Dr. Price would probably admit, one day, into the "*Retreat*" an Irish woman who has had the most frightful labors,— who had persistently refused, from conscientious motives, to permit the induction of labor. He could conceive of cases where it would be better to perform Cæsarean section, although he had never as yet done so. Probably in some of the cases in which he had formerly opened the head, he would now do the Cæsarean section. He thought a woman might go on safely in labor for an indefinite time, so long as the bag of waters had not ruptured, with very little danger to herself.

Dr. H. A. KELLY remarked that the bag of waters had ruptured four days before the operation. The pains had been very hard before this time, and did not change in character afterwards, although the woman soon dropped into collapse. The pelvis was so choked by hard cellulitic mass that it would have been impossible to dilate anything or reach anything above the mass. The second paper evidently referred to his case performed on a relative indication, in preference to craniotomy. That case he had not yet reported, reserving it for a full, careful discussion. Where

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any such garbled, distorted particulars had been hunted out he did not know, nor could he reply to criticisms offered in such a tone. His profession was his life, and he came here to impart, and, still more, to receive information in a spirit becoming the dignity of the profession, and he would not make life unhappy by taking part in any miserable bickering.

Dr. J. PRICE said that, in a long experience in the Obstetrical Department of the Philadelphia Dispensary, he had numerous cases of deformed pelvis and ill-developed women, some of them very young. He would simply call attention to two typical cases. *No.* 1. A case in which Dr. Eliot Richardson had five times done craniotomy, or complete evisceration. This woman applied in her sixth pregnancy to the Philadelphia Dispensary, and was assigned to Dr. Joseph Fox, for induced labor, — in a period of five years he had induced labor three times in this case, delivering by forceps, and saving two children, — the other was still-born. Case *No.* 2. Also a dispensary case; had, in her five previous labors, had the children destroyed; the sixth was provoked at eight months two weeks, and she was delivered with forceps of a fine, large male child. In a short experience at the Preston Retreat he had dealt with two cases of greatly contracted pelvis, in both of which Dr. Goodell had twice or thrice induced labor, delivering living children. Recently two cases were sent in for induced labor or Cæsarean section. The consultants determined on the induction of labor. Both cases terminated favorably, with living children, — one of these was a forceps delivery, the other normal. These are only typical cases, but few of the many he could cite in his own experience.

If Dr. Kelly was satisfied that the last case given in the paper was his second Cæsarean section, he was sure he was welcome to his knowledge, as no one else would wish to lay claim to it.

Dr. J. PRICE exhibited a specimen of a small male fœtus, at about the third month, removed from a case of extra-uterine pregnancy. Patient healthy and twice married. There had been numerous attacks of pain. Recovery from operation was rapid. The following week he did an abdominal section on a woman who was unconscious, and removed an extra-uterine pregnancy. She died twenty-six hours later. This was the sixth case of extra-uterine pregnancy which had developed in his practice in four weeks. One case he went into the country to operate, and found the patient dead when he arrived. Dr. Formad told him that this was a very common result in his experience as coroner's physician.

He also showed a dermoid cyst removed from a woman who has suffered from chronic peritonitis for years. Her physician had given her as much as a grain of morphia hypodermically, and had sat up all night etherizing her, to relieve her pain. She was greatly emaciated, with a rapid feeble pulse, high temperature, and had been in bed for six weeks. Whole tumor enucleated; no ligatures required; intestines separated and irrigated; glass drainage. This is the ninth day, and she is rapidly convalescing.

J. M. BALDY,
Secretary.

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REVIEW

ON ELECTRICITY AS A THERAPEUTIC AGENT IN GYNÆCOLOGY, BY PAUL F. MUNDÉ, M.D. — ALSO A TRANSLATION OF THE SAME INTO FRENCH, WITH NOTES BY DR. P. MÉNIÈRE, PARIS, 1888. — THE USE OF ELECTRICITY IN GYNÆCOLOGICAL PRACTICE, BY GEO. J. ENGELMANN, M.D.

As a large part of this number of the ANNALS is devoted to the subject of electrical treatment, it is of interest to review the good work done in this country, as shown in these essays. We regret that want of space will not permit us to give more than an outline of the valuable work done by Professors Mundé and Engelmann.

A conscientious study of their writings will offer a firm and sure foundation for success in this most important part of gynæcological therapeutics.

The specialist cannot afford to remain ignorant of the advances that are being made in this department, much less the general practitioner. To the latter the work of Apostoli, in the treatment of fibroids, is intensely interesting, because it offers an efficient substitute for the knife. This is also true in regard to endometritis, where the galvanic current has challenged the curette. The great objection to the use of electricity is the first cost of the apparatus. Dr. Engelmann, in his work on "The use of Electricity in Gynæcological Practice," states that there is but little preference between the various makers of batteries, although he has found that, for a stationary battery, the "Leclanché" is the best. The "Diamond" and the "Gonda-Leclanché" are the most serviceable modifications, thirty being the average number of cells. A current selector, to add one cell after another, is necessary.

He has not found the *current-changer* or *commutator* indispensable. A *galvanometer* (milliampèremetre) is an absolute necessity, and the physician who does not use it should be as severely censured as if he were in the habit of giving morphia by the "pinch." The galvanometer should register 200 milliampères, if it is desired to obtain the maximum effect of the current.

The *electrodes* should be selected with great care, as much depends upon them. They may be designated as the *active* and the *dispersing* electrodes.

The dispersing electrodes may be of three sizes, and in recording cases it will be found convenient, as well as accurate, to record the size and form of electrodes used. The smallest dispersing electrode is usually

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3½″ × 4½″; the second 4½″ × 6½″; the largest 6¼″ × 9¼″ and by 10″.

They may be covered with moistened clay, held in place by gauze (*Apostoli*), or covered by punk or absorbent cotton, held by chamois (*Engelmann*). For the active electrodes several sizes and shapes are used. These are clearly illustrated in Dr. Mundé's book on "Electricity in Gynæcology."

The intra-uterine electrode should be of unattackable metal, as platinum or gold, insulated by a sheath of glass or vulcanite. The intra-uterine bipolar may be made of steel or copper, with vulcanite.

A *Faradic* coil of short thick wire, and one of fine wire, are necessary.

According to Mundé, electricity may be applied with benefit to the following conditions: —

Faradic Current. — Insufficient development of uterus and ovaries, amenorrhœa, subinvolution, and menorrhagia, super-involution, displacements, and interstitial fibroids.

Galvanic Current. — Hyperplasia uterina, chronic ovaritis, and pachysalpingitis, chronic cellulitis, peritonitis, and lymphadenitis, pelvic neuralgia, local and reflex, neuralgic and mechanical dysmenorrhœa, erosions of the neck, subinvolution, subperitoneal uterine fibroids.

To this list Engelmann adds: "Neoplasms of various kinds, relief of many of the annoying reflex symptoms of the hystero-neuroses, chorea and other disturbances accompanying the menopause, constipation due to inactivity of the muscular walls, and dilatation of the rectum, painful or difficult micturition, when due to spasmodic contraction or relaxation."

This is surely a fair-sized field of usefulness, saying nothing of its value in obstetrics.

As to the duration of each *séance* no definite rule can be given, although five minutes may be called the average. The current should not be estimated by the number of the cells, but always by milliampères. A cardinal rule to be observed is that *no pain* should be caused in the internal organs. As Apostoli has put it: "*Il faut que toute operation soit utèrinement tolérable.*" In many patients it is absolutely necessary, in order to calm their fears, to have some method of adding one cell after another, without the slight shock of each succeeding cell. For this purpose it will suffice to pass the current through a water rheostat, which adds but little expense to the battery. The use of currents of high intensities cannot be fully explained in this short view of the field. A careful study of the works to which I have referred will give a clear understanding of the subject. The French edition of Prof. Mundé's work is brought

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up to date, and amplified by the excellent notes of the distinguished translator.

Although one may, with very little knowledge of electricity, effect cures, yet it is advisable to be well posted on the fundamental principles of this particular branch of electro-therapeutics, before undertaking to manage currents of such intensities as are now being employed.

H. P. N.

Dr. Franklin Martin, of Chicago, who has done so much for the introduction of Apostoli's treatment, with various useful modifications, has promised a paper, which will appear shortly.

The Seventh Annual Announcement of the New York Polyclinic and Hospital, a clinical school for graduates in medicine and surgery, has been received. The class for the session of 1887–8 numbered 337, an increase of 36 over the preceding year.

The changes in the faculty are the appointments of Dr. Henry N. Heinemann, Professor of General Medicine; and Dr. Charles Stedman Bull, Professor of Ophthalmology.

The New York Polyclinic Hospital will be opened in October. The preliminary term begins September 17, and the regular term on September 24.

HOSPITAL REPORT.

MURDOCK FREE SURGICAL HOSPITAL FOR WOMEN.

Patient, Mrs. M.; age, 28; has had one child, still-born. This was described as a delayed and very tedious labor. The labor had been in progress nineteen hours; the patient was becoming exhausted, at which time ether was demanded to ease the suffering. There is no record of treatment up to this time. Instruments were used while under ether, because it was considered she had waited for a suitable length of time, and was becoming exhausted. The child was removed, but, concerning the immediate results, I do not know. Later, swellings were developed on the labia, which were poulticed, and the abscesses broke. The case went on till about the eighth day, growing worse constantly. There was very much dissatisfaction concerning the condition, and at this time Dr. Poulin was called in, but did not wish to undertake the case under such circumstances. I saw the patient, with him, to advise concerning her removal to the hospital.

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She was admitted May 3, 1887. Examination showed great swelling of the labia, which were covered with a sloughy mucous membrane, and swelling of the abdomen, shaped like distended bladder. Beyond this no examination was possible without ether. Ether was administered. There was incontinence of urine, due to over-distention. A catheter was introduced, and three quarts of urine were drawn off, and the abdominal swelling lessened accordingly. The uterus was found subinvoluted to a far greater extent than is normal at such a stage, and extended to the umbilicus. There was a large amount of discharge of muco-pus from the cavity. The uterus was irrigated, and an application of iodized phenol made to the endometrium. The rectum was filled with scybala, and a large quantity of fæcal matter was spooned out after an attempt to soften by an injection.

A catheter was left in the bladder, a glycerine tampon in the vagina, and iodoform cotton applied over the raw surfaces. Aside from these conditions, there was found a laceration of the cervix and a caruncle of the urethra. Ether had to be given four times to allow treatment, — one or two days apart, — because of extreme pain to the touch. She gained rapidly, was operated upon for lacerated cervix and caruncle, and was discharged well July 1, 1887.

This case is interesting, especially as regards two points: First, as contrasted with the large number of cases before reported, in which the operation to repair the damages of labor has been done some years after its occurrence as a cure for the associated symptoms. This case was admitted and operated upon during the puerperium. Again, the family considered the case as badly managed. This is a point important to consider. It was an instrumental delivery, under ether, nineteen hours after the beginning of labor pains. It was considered, and probably was, very proper to use instruments. The result was by no means bad, since, although there was extensive laceration of the cervix, there was no rupture of the perinæum, a structure which does not usually escape in very severe cases.

The distended bladder, the packed rectum, the subinvoluted uterus, and tenderness, would indicate a neglect in attending to these parts. There was perfect recovery after the operation, so far as surgery was concerned.

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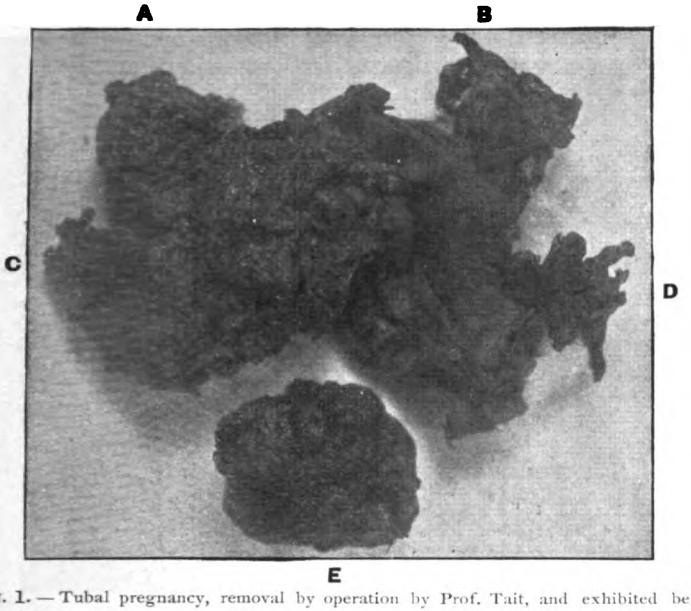


Fig. 1. — Tubal pregnancy, removal by operation by Prof. Tait, and exhibited before the Obstetrical Society of Philadelphia. (See page 89.) **A** — Ovary and adhesions. **B** — Parts of sac. Other parts of sac. **E** — Blood-clot from sac. In centre of picture a thick mass of sac, adhesions, and organized blood-clots.



Fig. 2. — Photo-micrograph of normal Fallopian tube; cross section. **A, B** — Wall of tube. **C, D, E,** etc. — Branching folds of mucous membrane lined with ciliated epithelium, and capable of nourishing the ovum if it remains among them, and becomes attached. — E. W. C.

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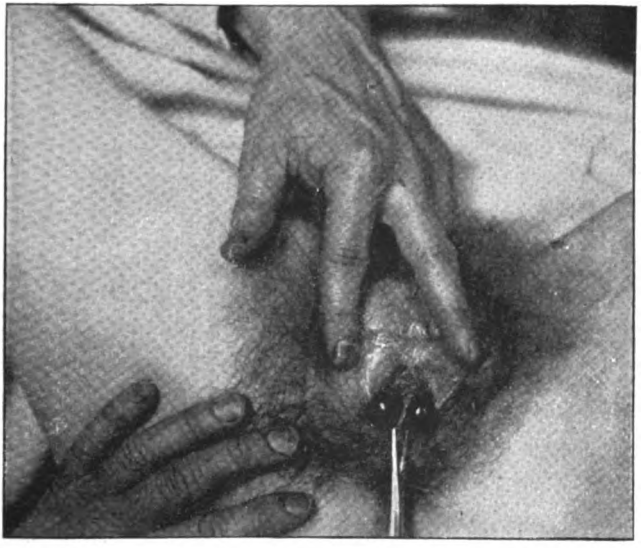


Fig. 1. — Double vaginæ (and uterus) (see page 104); two black rubber pegs are in the two vaginæ; between them the septum is seen, held by bullet forceps.

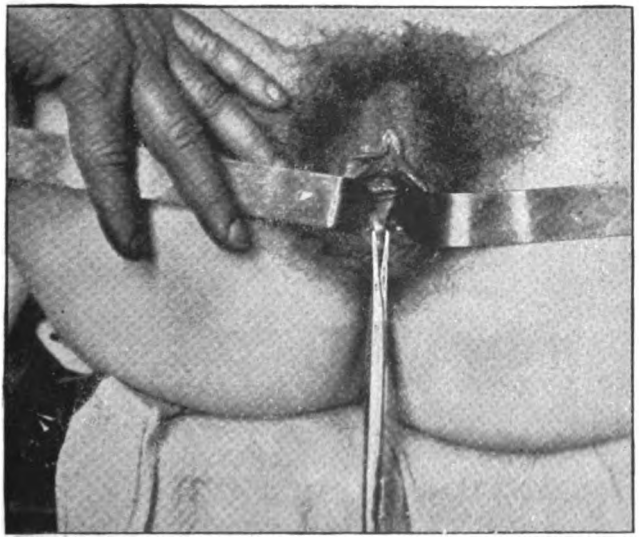


Fig. 2. — Same case. Vaginæ drawn apart, showing septum.

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Fig. 39.



Fig. 40.

Male, 3 legs, double genitals. See page 101.

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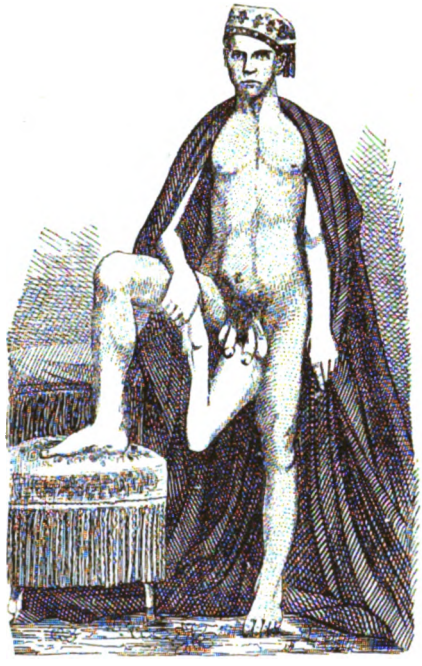


Fig. 41.

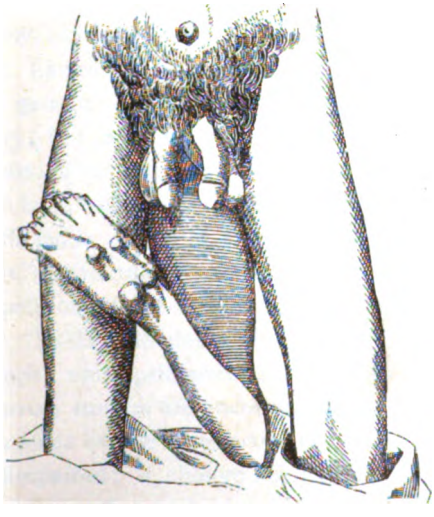


Fig 42.

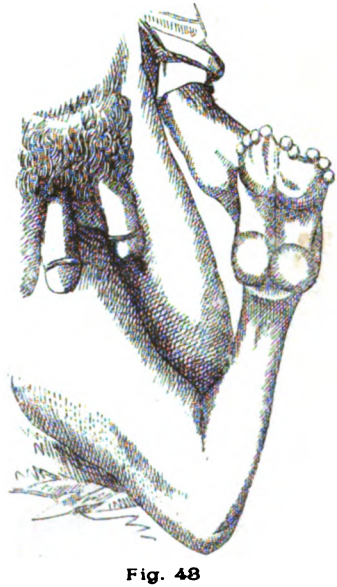


Fig. 48

Same case as on Plate III.

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ANNALS

OF

GYNÆCOLOGY.

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ORIGINAL COMMUNICATIONS.

THE SURGICAL TREATMENT OF INTESTINAL OBSTRUCTION.

BY N. SENN, M.D., PH.D., MILWAUKEE, WIS.,

Attending Surgeon to the Milwaukee Hospital; Professor of Principles of Surgery and Surgical Pathology in Rush Medical College, Chicago, Ill.

THE operative treatment of intestinal obstruction is in its infancy. Since laparotomy for other indications has become an established and frequently practised procedure, a number of the more aggressive surgeons have resorted to direct measures for the relief of intestinal obstruction; but, like all serious operations for otherwise incurable and fatal affections, its general application has met with strong opposition, not only by the laity, but also by the profession. The appalling mortality which has attended the operation in the hands of even the most competent surgeons has been quoted in the discussions of this subject in medical societies as a sufficiently strong argument in favor of non-operative interference. In this regard the history of laparotomy for intestinal obstruction is only a repetition of the history of ovariotomy.

To-day the danger incident to opening the abdominal cavity under proper antiseptic precautions is so slight that patients suffering from ovarian tumors are encouraged to have them removed as soon as their presence can be diagnosticated, at a time when the general health remains unimpaired; a change of practice which has still further reduced the mortality of ovariotomy, and also of laparotomy for acute intra-peritoneal affections; and surgeons will recognize the importance of operating early, before the patient's strength has been wasted by the disease, and before the

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parts involved in the operation have undergone irreparable textural changes. The mortality of abdominal section in the treatment of the different forms of intestinal obstruction will always be great, because the conditions which have caused the obstruction are often an intrinsic source of danger. In others the removal of the obstruction necessitates an intestinal resection, which in itself is a vastly more serious operation than the removal of an ovarian tumor. Intestinal obstruction, irrespective of its cause, is always followed by a series of consecutive pathological changes which, independently of the partial or complete interruption of the passage of intestinal contents, tend to destroy life. The dilatation of the intestinal tube on the proximal side of the seat of obstruction may give rise to such a degree of abdominal distention as to destroy life from suspension of important functions by mechanical pressure. In acute obstruction the violent peristalsis on the proximal side of the occlusion causes an increased afflux of blood to the portion of bowel the seat of exaggerated physiological function, which, after cessation of peristaltic action, remains as an intense venous and capillary engorgement. During the paretic stage the blood-vessels in the intestinal wall have lost their support, hence transudation and exudation readily take place into the paravascular tissues, which, combined with capillary stasis attending this stage of the inflammatory process, results in gangrene. The intestinal wall in a state of inflammation becomes permeable to pathological micro-organisms, which are always present in the intestinal canal, and which, after passing through the entire thickness of its walls, enter the peritoneal cavity and induce septic peritonitis, — a frequent immediate cause of death. These facts are cogent reasons for adopting surgical measures in all cases of intestinal obstruction due to mechanical causes, as soon as a diagnosis can be made. If this were done, the two greatest sources of immediate danger attending the following laparotomy (shock and septic peritonitis), if not entirely avoided, at least would be less likely to occur, and the tissues, the seat of operation, would be in a favorable condition for direct treatment and repair. An abdominal section, in the treatment of intestinal obstruction, is always necessarily attended by some shock, and it is therefore of the utmost importance to perform the operation at a time when the organs of circulation and the nervous system are still in a condition to successfully resist the immediate effect of the operation. Death from septic causes can only be avoided by operating at a time when the intestinal canal, at the seat of obstruction and on its proximal side, is still in a condition capable of resisting infection, and of undergoing a satisfactory process of repair in case it becomes necessary to incise or resect during the operation. Abdominal surgery was founded and developed on

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American soil, and in the part which refers to the treatment of intestinal obstruction ample scope is left for the exercise of the genius and perseverance of the younger members of the profession in this country, who would do honor to the memory of our McDowell, our Sims, and our Gross, by honest, faithful, unselfish, original work.

The subject may be divided under the following heads: —

I. — Definitions and Classification of Intestinal Obstruction.

II. — Frequency of Intestinal Obstruction.

III. — Surgical Resources in the Treatment of Intestinal Obstruction.

1. Irrigation of Stomach.
2. Distention of Colon with Fluids.
3. Rectal Insufflation of Hydrogen Gas.
4. Tubage of Colon.
5. Manual Exploration by the Rectum.
6. Taxis and Massage.
7. Puncture of Intestine.
8. Uniform and Uninterrupted Compression of Abdomen.
9. Enterotomy.
10. Colotomy.
11. Abdominal Section,

a. Preparations of the Operations.
b. Anæsthesia.
c. Incision.
d. Intra-abdominal Examination.
e. Operative Treatment of Obstruction.

1. Intestinal Anastomosis.
2. Physiological Exclusion by Anastomosis.
3. Enterotomy.
4. Enterectomy.
5. Direct Treatment in Strangulation, by a Band or Diverticulum, Flexion, and Adhesion.

6. Toilette of Peritoneal Cavity.
7. After Treatment.

IV. — Anatomico-Pathological Forms of Intestinal Obstruction.

1. Entero-lithiosis.
2. Invagination.
3. Volvulus.
4. Flexion and Adhesions.
5. Ligamentous bands and diverticulae.
6. Stenosis.
7. Tumors.

V. — Dynamic Intestinal Obstruction.

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I. — Definition of Intestinal Obstruction.

Intestinal Obstruction, Occlusion, and Strangulation have been used as synonymous terms. Some authors wish to draw a line of distinction between cases of intestinal obstruction and intestinal strangulation. For practical purposes such a distinction is superfluous. The classification into true and false obstruction from a surgical standpoint should be abandoned. A more important classification remains to be mentioned, by which all cases of intestinal obstruction are divided into acute and chronic. This distinction must be maintained for many reasons. In chronic obstruction the symptoms usually develop very slowly as the occlusion becomes more complete. During the early part of the affection the intestinal walls above the seat of obstruction undergo compensatory hypertrophy, dilatation taking place very slowly, unless the *chronic* suddenly merges into the *acute* form, an event which is always announced by a complexus of symptoms characteristic of acute or sub-acute obstruction. Chronic obstruction is more frequently met with in persons advanced in years, and the seat of obstruction is usually located in some part of the large intestines. The acute form is caused by some pathological conditions which suddenly narrow or obliterate the lumen of some portion of the intestines, usually above the ilio-cæcal valve, and often without any premonitory symptoms gives rise to a complexus of acute symptoms almost pathogomonic of this affection. The sudden interruption of the passage of intestinal contents is followed by violent peristaltic action of the bowel above the seat of obstruction, in a vain attempt to clear the intestinal tract, which, from muscular exhaustion and the distention from the accumulation of intestinal contents, finally gives place to paresis and the textural changes previously alluded to. In such acute cases prompt action constitutes an essential element of success, as in a few hours or days the patient becomes utterly prostrated, and the bowel at and above the seat of obstruction has undergone irreparable pathological changes. These are the cases that demand early surgical treatment, and will claim our attention in the discussion assigned to this evening.

II. — Frequency of Intestinal Obstruction.

An examination of the statistics of Leichtenstern shows that, external herniæ and malignant tumors being excluded, one death from intestinal obstruction takes place in every three to five hundred deaths from all causes in hospital practice. Hilton Fagge (Guy's Hospital Reports, 1869) has shown from an examination of the records of 4,000 autopsies in Guy's Hospital, from 1854 to 1868, that 54, or about 1.4 per centum, were cases

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of intestinal obstruction. Husner (Deutsche Med. Wochenschrift, 1887), from his own investigations regarding the frequency of intestinal obstruction, maintains that usually, out of every 100,000 individuals, from five to ten suffer from this affection, and that one to every three to five hundred deaths is attributable to this cause.

III. — Surgical Resources in the Treatment of Intestinal Obstruction.

1. *Irrigation of the Stomach.* — The accumulation of intestinal contents above the seat of obstruction acts deleteriously in several ways: (*a*) It causes violent peristaltic action of the intestine above the seat of obstruction. (*b*) It exhausts the patient's strength by causing persistent retching and vomiting. (*c*) It is one of the causes which produces distention of the intestine. (*d*) It favors fermentative and putrefactive changes in the intestine by the fluid serving the purpose of a nutrient medium for pathogenic micro-organisms. In my experiments on animals, where I made complete obstruction, I never witnessed such persistent vomiting as in man. I attributed this difference to the fact that animals thus treated refuse, as a rule, both food and drink; and that the intestinal canal, in proportion to the size of the abdominal cavity, is much shorter than in man. Patients suffering from acute intestinal obstruction should abstain from taking either food or drink, as digestion and absorption are almost, if not completely suspended, and the accumulation of fluids cannot fail in aggravating the symptoms.

Kussmaul (Berl. Klin. Wochenschrift, 1884, Nos. 42, 43) has introduced a new and exceedingly valuable therapeutic measure in the treatment of intestinal obstruction in the use of the stomach-tube. By the siphon action of the tube, gas and the fluid contents of the stomach and upper portion of the intestinal canal are evacuated, and thus abdominal distention is relieved, and the hydrostatic pressure in the intestine, above the obstruction, diminished. He claims for this measure the following advantages: (*a*) Intra-abdominal tension is diminished, and thus the first condition secured for the correction of the mechanical difficulties which have caused the obstruction. (*b*) It relieves the distention of the bowel above the seat of obstruction, and consequently, also, the pressure of the intestines against each other, — a condition which cannot fail to impair peristaltic action. (*c*) Finally, what is most important, by evacuating the accumulated contents it diminishes the violent peristalsis. Madelung has called attention to the necessity of resorting to irrigation of the stomach prior to the administration of an anæsthetic in operation for intestinal obstruction, as without such precaution there is danger during the attacks of

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vomiting, which are almost sure to be provoked by the anæsthetic, of fluid entering the trachea, causing suffocation, or later pneumonia. As an aid in the treatment of intestinal obstruction, irrigation of the stomach should always be systematically practised every four to six hours, but as a curative measure it should never be relied upon. In my own practice I have always combined emptying of the stomach with irrigation, using large quantities of warm water rendered antiseptic by the addition of salicylated soda or hypophosphite of soda. The washing out of the stomach with a harmless and efficient antiseptic solution has a decidedly beneficial effect in preventing fermentative and putrefactive changes in the intestinal contents above the seat of obstruction.

2. *Distention of Colon with Fluids.* — Evacuation of the colon by copious rectal injections is resorted to almost instinctively in every case of intestinal obstruction. This procedure has also been employed with the intention of utilizing the hydrostatic pressure as a means in the correction of the mechanical difficulties which have given rise to the obstruction. This method of treatment has given rise to the much discussed question as to the permeability of the ileo-cæcal valve to rectal injections of fluid or to the insufflation of air or gases. The majority of those who have studied this subject clinically or by experiment make the positive assertion that the ileo-cæcal valve is perfectly competent, and effectually guards the ileum against the entrance of both fluids and gases forced into the rectum, while others insist that it is permeable only in exceptional cases, and only a few claim that its resistance can be overcome by a moderate degree of pressure.

In my paper read at the last meeting of the International Medical Congress ("An Experimental Contribution to Intestinal Surgery, with Special Reference to the Treatment of Intestinal Obstruction") I detailed the results of a number of experiments which I made on dogs, to determine to my own satisfaction the extent to which the ileo-cæcal valve is permeable to fluids forced from below. In three cases where fluid was forced beyond the ileo-cæcal valve, in two of them the post-mortem revealed multiple lacerations of the peritoneal coat of the large intestines, while the third animal sickened immediately after the experiment was made, and died eight days later. These experiments, combined with clinical experience, leave no doubt that, practically, the ileo-cæcal valve is impermeable to fluids from below, and that for diagnostic and therapeutic purposes it is unsafe and unjustifiable to attempt to force fluids beyond the ileo-cæcal valve. In two cases of ilio-colic invagination in children less than two years of age I succeeded in reducing the bowel by steady hydrostatic pressure, while the little patients were under the influ-

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ence of an anæsthetic and held in the inverted position. In both instances invagination had existed for two or three days. We should *a priori* expect that air and gases, on account of their lesser weight and greatre elasticity than water, could be forced along the intestinal canal with less force, and for that reason alone, if for no other, should be preferred to water in cases where it appears desirable to distend the intestine below or above the ileo-cæcal valve for diagnostic or therapeutic purposes. I shall, therefore, call your attention briefly to

3. *Rectal Insufflation of Hydrogen Gas.* — Hydrogen gas is the lightest of all known gases ("Rectal Inflation of Hydrogen Gas an Infallible Test in the Diagnosis of Visceral Injury of the Gastro-Intestinal Canal in Penetrating Wounds of the Abdomen." Jour. Amer. Med. Association, June 23, 30, 1888). I have demonstrated by my experiments that this gas is non-toxic, non-irritant when injected into the connective tissue and into the large serous cavities, and is rapidly removed by absorption. Distention of the entire gastro-intestinal canal with this gas by rectal insufflation both in man and animals was never followed by any immediate or remote ill effects. Accurate experiments to determine the force requisite to render the ileo-cæcal valve incompetent by insufflation of air or gas had previously not been made, and as it is exceedingly important to obtain accurate information on this subject, I made a number of inflations in animals and man, estimating at the same time the pressure under which they were made, either with a mercury gauge or a manometer such as is used by gas-fitters and plumbers. A number of experiments made for the special purpose of measuring the resisting capacity of the ileo-cæcal valve to the entrance of gas from the cæcum into ileum showed that in a normal condition the valve in a healthy adult person is overcome by rectal inflation under a pressure varying from one and a half to two and one-fourth pounds (.6 to 1.2 kilo.). This amount of pressure is not sufficient to injure any of the coats of a healthy intestine in any part of its course.

As the result of numerous observations on man and animals, I can state that, when the inflation is mades lowly and continuously, there is less danger of inflicting injury than when it is done rapidly or interruptedly. When the patient is placed fully under the influence of an anæsthetic the ileo-cæcal valve yields to a lower pressure than when the abdominal muscles are in a state of rigidity, as this interference with the requisite degree of distention of the cæcum which is necessary to effect the separation of the margins of the valve. The superiority of hydrogen-gas inflation over injections of liquids in the mechanical treatment of intestinal obstruction is apparent. Liquid injections cannot safely be forced beyond

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the ileo-cæcal valve, and even in distending the entire colon by liquids a great deal more force is required than by insufflation with hydrogen gas. Insufflation of hydrogen gas is a valuable means of diagnosis in locating the seat of obstruction before tympanites has set in, and therefore best adapted at a time when most needed during the early stage of intestinal obstruction. If the colon dilates uniformly from the sigmoid flexure to the cæcum the obstruction must be sought for higher up in the intestinal canal. The passage of gas through the ileo-cæcal valve rendered incompetent by the distention of the cæcum is always attended by a characteristic gurgling or blowing sound, which is always heard most distinctly by applying the ear or stethoscope over the ileo-cæcal region. Not infrequently the sounds are so loud and distinct that they can be heard at a distance of several feet. If the gas passes the ileo-cæcal valve under pressure not in excess of that required to overcome it in a state of health, and if after inflation a thorough examination of the ileo-cæcal region by inspection, palpation, and percussion reveals nothing abnormal, the search for the obstruction is continued by inflating the small intestines slowly and making frequent examinations of the abdomen to ascertain the height to which inflation has been made, and to study the relative positions of the different abdominal organs. Inflation is also a useful diagnostic resource in locating the obstruction during laparotomy for intestinal obstruction. The intestine below the seat of obstruction is always empty, collapsed, and anæmic as compared with the portion above the obstruction. When the obstruction is located high up in the intestinal canal and the tympanites is extensive, the empty portion of the small intestines has by compression become displaced and is often not readily found. In such cases the distention of the bowel from below will indicate to the surgeon at once the location and length of the intestine below the seat of obstruction, and will enable him to search for the obstruction from below upward. The manipulation of the healthy intact portion of the intestinal canal in the search for the obstruction is by far a less hazardous procedure than the handling of the distended portion above the obstruction, rendered paretic, exceedingly vascular, and much softened by the obstruction. In cases where we suspect the presence of a perforation, inflation with hydrogen gas will demonstrate not only its existence, but also its location. Invagination is rare above the ileo-cæcal valve, and location can be determined by inflation with hydrogen gas, and if resorted to early it may prove the means of effecting the mechanical reduction. In ileo-cæcal and colonic invagination slow and persistent distention of the colon with hydrogen gas, with the patient completely under the influence of chloroform, is the safest and most efficient means of effecting reduction, and should always

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be resorted to whenever these conditions are recognized or even suspected. Rectal inflation, as ordinarily practised, by forcing air into the rectum with bellows or a Davidson syringe, is not devoid of danger, as the force cannot be accurately regulated. Insufflation of hydrogen from a rubber balloon is applicable in all cases of sub-acute and chronic invagination and during the early stage of acute invagination; that is, before the passive hyperæmia in the invaginated portion has rendered reduction by this method impossible. Should perforation take place the accident is at once recognized by a uniform distention of the abdomen, by the entrance of the hydrogen gas into the peritoneal cavity, as well as by a sudden diminution of pressure readily felt by the person who makes compression of the balloon. The entrance of hydrogen gas into the peritoneal cavity is in itself a harmless occurrence, as the gas is non-irritant and perfectly aseptic. In such cases the insufflation must be followed at once by abdominal section and the necessary operative treatment of the invagination.

4. *Catheterization of Colon.* — Even a few years ago it was as much a mooted point in reference to how far fluids could be forced beyond the rectum as the question of the permeability of the ileo-cæcal valve is at the present time. Some authors suggest the introduction of a rectal tube in the treatment of intestinal obstruction, as first practised by O'Beirne, and claim that with it they have reached the cæcum; but Treves assures us that he has made numerous experiments on the cadaver, and has never succeeded in passing farther than the sigmoid flexure. The legitimate indications for tubage of the colon are the following: —

a. Detection and location of obstruction below the sigmoid flexure.

b. To relieve gaseous distention of the colon.

c. To administer high nutrient enemata in cases where it becomes necessary to maintain the strength of the patient by this method of alimentation.

5. *Manual Exploration by the Rectum.* — The introduction of the whole hand into the rectum, as a means of diagnosis, was devised and first practised by Simon. This method of exploration is only applicable in the adult. Simon and his numerous followers claim that the hand can be introduced sufficiently far to enable the surgeon to palpate most of the abdominal organs. Nussbaum assures us that he has felt more than once the tip of the sternum with the hand employed in the manual exploration by the rectum. The glowing accounts of the value of this method of exploration were soon followed by accounts of disastrous consequences, such as rupture of the gut and permanent loss of function of the sphincter muscles. Manual exploration by the rectum should only be undertaken by surgeons with small, slender hands, and the examination

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should always be made with the patient fully under the influence of an anæsthetic, and always with the utmost care and gentleness. This method of examination will enable the surgeon to ascertain the location and nature of obstruction below the sigmoid flexure, the existence of volvolus at the sigmoid flexure, and to determine the presence of pathological conditions in the pelvis which might have caused the obstruction. As a therapeutic measure this procedure can be employed in the removal of foreign bodies or an enterolith, within reach of the hand, and in the reduction of intussusception, where the invaginated portion of the bowel has passed beyond the sigmoid flexure.

6. *Taxis and Massage.* — Hutchinson decidedly opposes early operative interference in cases of intestinal obstruction, and expects little from it in those which have been some time in existence. He advocates what he terms abdominal taxis, under an anæsthetic.

Taxis and massage have a limited range of application in the treatment of intestinal obstruction, as they are only applicable to cases where the obstruction is due to the presence of a foreign body, a fæcal accumulation, or an enterolith, and should only be resorted to before these causes have developed inflammatory changes at the seat of impaction. A number of such cases are on record where this treatment proved successful.

Strenbel (Ueber Erkennung und Behandlung der inneren Darmeinklemmung. Prager Viertel-Jahschrift. B. XV. 1858) succeeded, in a boy eleven years of age, suffering from intestinal obstruction due to the impaction of a mass of cherry-stones above the ileo-cæcal valve, in removing the cause of obstruction by submitting the swelling to gentle massage frequently repeated.

Marotte (Einklemmung eines Gallen-steines im Darme, Heilung durch palpation des Bauches. Schmidt's Jahrbucher, B. 93, p. 189) gives an account of a case of acute intestinal obstruction which had lasted for some days, when fæcal vomiting set in, and in which the usual internal treatment with opiates and chloroform afforded no relief, which was promptly cured by palpation of the abdomen, made for the purpose of locating the seat of obstruction. The patient experienced a sensation at the time as though the obstruction had given way, and soon afterward had a number of evacuations, in which a gall-stone the size of a walnut was found.

The author refers to five cases of intestinal obstruction, caused by the presence of a gall-stone, collected by Taucomeau Dufresne. One of those cases came under the observation of Mayo. In this case the gall-stone was also dislodged by palpation, followed by cessation of the symptoms of obstruction and recovery of the patient. The remaining four patients

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died. In cases of fæcal accumulation in any portion of the large intestine, from the cæcum to the sigmoid flexure, unattended by inflammation and giving rise to symptoms of obstruction, and not amenable to irrigation of the colon, massage and taxis should be made while the patient is under the influence of an anæsthetic, so as to enable the operator to break up the mass and to force it onward in the interior of the bowel to a point where peristaltic action is more active.

7. *Puncture of Intestine.* — Advanced cases of intestinal obstruction are always attended by great distention of the bowel on the proximal side of the obstruction, a condition which causes increased intra-abdominal pressure. The tympanitic distention of the abdomen may be so great as to destroy life by suspension of important functions. The diaphragm is pushed upward so far that death may ensue from asphyxia, or the circulation is so far impeded as to cause death by syncope from this source. Great distention of the intestines on the proximal side of the obstruction also aggravates the mechanical difficulties which have caused the obstruction, as the distended bowel under such circumstances forms numerous flexions which interfere with the free passage of its contents as far as the obstruction; at the same time the distended coils may render the bowel less permeable, at the seat of obstruction, by compression. The anxiety with which surgeons look upon extensive tympanites following the course of intestinal obstruction is universal, hence it is only natural that for a long time it has been customary to make attempts in affording relief by puncturing the distended bowel through the abdominal wall. A small trocar was usually employed for this purpose, and since the introduction of the hypodermic needle and the aspirator, a hollow needle of one of these instruments has been used. Cases have been reported where repeated punctures not only afforded relief, but finally led to a permanent cure. In some instances the canula of a trocar after puncture was allowed to remain until a fæcal fistula had been established. An intestine distended to the extent of giving rise to distressing and dangerous intra-abdominal pressure is always in a paretic condition, unable to expel its contents, and whatever escapes through a needle or the canula of a trocar is expelled by the contraction of the abdominal wall. This applies not only to the liquid, but also to the gaseous contents. I have repeatedly satisfied myself in the living subjects, and in animals where obstruction was caused artificially, that mere puncture empties only a limited space, not more than six to eight inches on each side of the puncture. If aspiration is practised at the same time the effect is doubled; further evacuation is arrested by flexions among the distended coils and valvular closure of the collapsed segment

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of the intestine, at the terminus of the evacuated area. The recorded results of puncture of the intestine represent largely only the successful cases, while the numerous failures never find their way to literature. Puncture of a healthy intestine with a needle of moderate size is never followed by extravasation, as the irritation incident to the puncture always produces muscular contractions which start from the point of puncture, and at once obliterates the canal made by the needle. Puncture of a paretic intestine is always attended by great risk of extravasation, as the muscular coat has lost its tonicity and the track of the needle or trocar is slower in closing or remains permanently patent. Numerous cases have been reported where a mere needle puncture gave rise to escape of fæcal contents into the peritoneal cavity. As the removal of the tympanites only in exceptional cases can correct the canalization disturbances, and as the puncture of a distended paretic intestine is never devoid of risk of fæcal extravasation, the legitimate indications for puncture of the intestine are extremely limited. If employed at all, this procedure is only applicable to cases where no mechanical obstruction is present, and where the rapid distention of the abdomen in itself constitutes an imminent source of danger. Puncture should never be resorted to with a view of removing liquid contents; its use should be limited to the evacuation of gases. For this purpose one of the smaller needles of an aspirator should be used. The point of the needle should be sharp, so that it can be readily passed through the intestinal wall. The needle should always be thoroughly disinfected by heating it in the flame of an alcohol lamp. The point of puncture should always be made at the most prominent point, and the instrument pushed boldly forwards until all resistance is overcome. As soon as gas escapes the intra-abdominal pressure should be increased by gentle and uniform compression of the abdominal walls. As soon as gas ceases to escape, aspiration should be made and continued as long as anything can be evacuated, and until the needle is withdrawn. Should it be possible to ascertain the location and direction of the part of the intestine to be punctured, it is advisable to make the puncture obliquely in the long axis of the bowel, so as to guard more effectually against extravasation.

8. *Uniform and Uninterrupted Compression of the Abdomen.* — In all cases of intestinal obstruction, but more particularly in the chronic form, uniform firm support of the abdomen affords relief to the patient, and is one of the best means of preventing rapid distention of the intestine above the seat of obstruction. Fixation and equable compression are resorted to in other parts of the body as the best known means in controlling muscular spasm. It is only reasonable to expect that the same

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measures should prove useful in retarding, if not in preventing, the violent peristalsis in cases of intestinal obstruction, and especially in preventing over-distention of the intestine. Equable compression of the abdomen should be made before great distention has occurred. Uniform compression of the abdomen is best secured by padding the iliac region with absorbent cotton, and then enveloping the body from the pubes to the tip of the sternum with broad strips of adhesive plaster which should be made to overlap each other.

9. *Enterotomy.* — In 1840 Nelaton made the first enterotomy for intestinal obstruction. The mortality of enterotomy has been nearly as great as that of laparotomy with removal of the cause of obstruction, and on this score alone its further application should be limited to exceptional cases, — cases where a radical operation is admissible on account of the nature of the obstruction or the enfeebled condition of the patient. No one who under the pressure of circumstances has been forced to establish a preternatural anus has left his patient with a feeling of satisfaction, as he must have been sadly impressed with the fact that, at best, he has only succeeded in relieving the urgent symptoms of the obstruction, while he has failed in removing the cause and, consequently, in restoring the continuity of the intestinal canal. A patient with an artificial anus is indeed an object of pity, as experience has sufficiently demonstrated how difficult it is, in many instances, to close the abdominal opening, even after the cause of obstruction is subsequently removed or corrected spontaneously, without exposing him a second time to the risks of life incident to another abdominal section. If the causes which have led to the obstruction are of a permanent character, all attempts at closing the fistulous opening will, of course, prove worse than worthless, and the patient is condemned to suffer from this loathsome condition the balance of his lifetime without a hope of ultimate relief. I believe I can safely make the statement without fear of contradiction that most of these unfortunate patients would prefer death itself to such a life of misery. Many able surgeons even at the present time prefer enterotomy to laparotomy, and mention as principal arguments in its favor that it requires less time in its execution, and can, therefore, be resorted to in patients where a radical operation for this reason alone would be inadmissible. As the technique of radical operations for intestinal obstruction will be improved the indications for enterotomy will diminish. As long as the patient's strength warrants a radical operation, enterotomy should never be performed. In patients so enfeebled that the administration of an anæsthetic would be attended by imminent danger to life, an enterotomy can be made without anæsthesia, and under such circumstances will be the means occasionally of saving a life which would otherwise be lost.

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10. *Colotomy.* — Colotomy will always retain its place in operative surgery as a palliative and life-prolonging procedure in the treatment of carcinomatous stenosis of the lower portion of the colon, and in cases of inoperable carcinoma of the rectum. The recent advances in abdominal surgery have rendered the old-fashioned lumbar or extra-peritoneal operation obsolete. The modern operation is made by opening the peritoneal cavity in the right or left groin, according to the indications which are to be fulfilled, and one of its principal objects is to terminate the intestinal canal at the artificial anus, so as to provide absolute physiological rest for the portion of bowel below it. The obvious disadvantages of colotomy, as usually performed, are cited by Maydl (Centralblatt f. Chirurgie, 1888, No. 24) as the reasons which induced him to devise the operation which he has described. He opens the peritoneal cavity by Littre's incision, and draws a loop of intestine forward, till its mesenteric attachment is on a level with the external incision. Through a slit in the mesentry, close to the gut, is inserted a hard-rubber cylinder wrapped in iodoform gauze; a goose-quill will answer the same purpose. This device holds the intestine in the wound, and prevents its return into the abdominal cavity. By means of a row of sutures placed on each side of the prolapsed gut, including the serous and muscular coats, the two limbs of the flexure, in so far as they lie in the abdominal wound, are stitched together beneath the rubber support. If the intestine is to be opened immediately, it is stitched to the parietal peritoneum of the abdominal incision, and the latter protected by iodoform collodion. If the bowel is to be incised later, the latter is not stitched to the peritoneum, but surrounded by iodoform gauze packed in beneath the rubber support, the incision of the bowel being made four or six days later, after the peritoneal cavity has been excluded by firm adhesions. If the artificial anus is made for lesions incapable of a subsequent removal, a transverse opening, including one-third of the periphery of the bowel, is made by the thermo-cautery, drainage-tubes are inserted into the two lumina, and the intestine is carefully washed out. If the progress of the case is satisfactory, the bowel is cut through completely in two or three weeks, the rubber support serving a useful purpose as a guide in making this incision; a few sutures will serve to secure the cut end to the skin. If the direction of the muscular fibres has been respected in making the abdominal incision, the patient is provided with such an efficient sphincter that a large drainage-tube is required to keep the opening patulous. Should the artificial anus be a temporary one, the incision in the intestine is made in a longitudinal direction. When it has become desirable to close the artificial opening, the rubber support is removed, after which the bowel retracts,

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and the opening often closes without any further treatment. If the adhesions are too firm for this, they are removed, and the bowel is sutured and returned into the peritoneal cavity. Lauenstein accomplishes the same object by suturing first the peritoneum to the skin, thus lining the external incision by peritoneum, then drawing out a loop of intestine, and closing the parietal wound by sutures passing through the meso-colon of the prolapsed portion of the intestine, which is thus fastened to the abdominal incision; next the serosa of each limb of the prolapsed loop is stitched through its entire circumference to the parietal peritoneum.

As a general thing, Lauenstein's operation will be found the simplest, and should receive the preference in ordinary cases. The modern operation of colotomy is indicated in cases of congenital atresia of the rectum, when the bowel cannot be readily reached from below; also in cases of carcinoma of the sigmoid flexure and the rectum not amenable to a radical operation. Finally, the operation might become necessary in irreducible colic invagination in which, for anatomical reasons, resection or anastomosis cannot be done.

11. *Abdominal Section.* — A radical operation in the treatment of intestinal obstruction embraces the fulfilment of two principal indications: (*a*) The removal or rendering harmless of the cause of obstruction; (*b*) the immediate restoration of the continuity of the intestinal canal. To meet the first indication the cause of obstruction must be found, its nature determined, and whenever advisable or practicable, it is removed; a most formidable and serious undertaking, more especially in cases where the pathological conditions which have given rise to the obstruction are of such a nature as to constitute in themselves an imminent or remote source of danger, as, for instance, malignant disease or gangrene of the bowel from constriction. Abdominal section in the treatment of intestinal obstruction has so far been attended by a fearful mortality, owing to the fact that most operations were performed when the patients were in collapse, or when the parts involved in the obstruction had undergone advanced and often irreparable pathological conditions.

These statistics show the value and importance of an early operation, as sometimes delay of only a few hours will bring complications which not only necessitate more time in their removal, but will, at the same time, necessitate a resection or an anastomosis, which, had the operation been done at an earlier date, might have been obviated. The older text-books on surgery always cautioned the practitioner to postpone the operative treatment of a strangulated hernia for a certain length of time, which was often consumed in vain attempts at reduction, consequently the old statistics of herniotomy present a high mortality when contrasted with recent

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operations. This striking contrast was brought about, not solely by an improved technique, or by the introduction of antiseptic surgery, but it is largely owing to the modern teaching that it is dangerous to delay an operation, if the strangulation is not relieved by gentle taxis, persisted in, not for hours and days, but only for fifteen minutes, and at the utmost for half an hour. Modern surgery recognizes the safety of an early operation for strangulated hernia, and the results which have been obtained have demonstrated the wisdom of the change in practice. Vain and prolonged attempts at reduction of a strangulated hernia aggravate the causes which have produced the strangulation, and hasten the pathological changes in the strangulated intestinal loop which arise from the strangulation. If delay is dangerous in a case of strangulated hernia, what can we expect of a laparotomy for intestinal obstruction when postponed until the patient has been exhausted, or the local conditions necessitate complicated operative measures? In strangulated hernia the destructive changes in the constricted intestinal loop affect by continuity and contiguity primarily only a limited peritoneal surface, while in intestinal obstruction the seat of obstruction is in direct communication with the entire peritoneal cavity, which becomes the seat of a rapidly fatal septic inflammation if gangrene or perforation takes place. A recent intestinal obstruction, due to a change of visceral relations, such as flexions, volvolus, and invagination, if subjected to operative treatment before consecutive changes have occurred, would offer but little difficulty to mechanical correction of the displacement; and as in such cases the intestinal tube would be in a healthy intact condition, the danger of the operation would not be greater than that of an ordinary ovariotomy. I think enough has been said in favor of an early operation in all cases where the signs and symptoms indicate the existence of an obstruction which does not yield to milder measures. Cases of intestinal obstruction are surgical lesions in every sense of the word, and should be treated from the very beginning upon common-sense surgical principles. To temporize with such cases by the administration of uncertain drugs must be looked upon as a relic of ignorance and barbarism. The treatment of a case of intestinal obstruction upon the expectant plan, until gangrene or perforation has taken place, which, if submitted in time to proper surgical treatment, might have been cured by one stroke of the scissors, should be considered as gross negligence. Laparotomy for intestinal obstruction should not be undertaken by every tyro in surgery. The one who undertakes it should be master of the situation, familiar with every detail of the technique of the different operative procedures, and fully conversant with the manifold complications with which he may be confronted. Every possible contingency must be fully considered before

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the abdomen is opened, as this is an operation where unnecessary hesitation and loss of time weigh heavily in the balance on the side of failure. Like other abdominal operations, laparotomy cannot be mastered in the lecture-room, or even under the tuition of experienced surgeons. Those who expect to perform this operation must, in the first place, have a perfect knowledge of the structure and relations of all the abdominal organs, and must acquire the necessary operative skill on the cadaver, and then, what is still more important, should make the more important operation on the living animal. It is not necessary or even desirable that every physician should become a laparotomist, but in every section of the country distant from the medical centres some one should interest himself in this branch of surgery, and prepare himself to meet such emergencies. Unlike a patient suffering from an ovarian tumor, patients affected with acute intestinal obstruction cannot be transported great distances, and as loss of time leads to disastrous consequences, it is not always possible to secure the services of a surgeon versed in abdominal surgery from a distance, and for such contingencies I should recommend that at least one member of every county or district medical society should familiarize himself sufficiently, so that patients in his neighborhood may reap the advantages of modern aggressive surgery at their own homes.

[*To be continued.*]

AN ABSTRACT FROM A PAPER

BY THOMAS OPIE, M.D.,

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Read before the Association of American Obstetricians and Gynæcologists, at their Annual Meeting, held September 17, 18, and 19, 1888, in Washington, D.C.

IS THE FREQUENT USE OF FORCEPS ABUSIVE?

THERE is a remarkable unanimity of opinion in the teaching of recent text-books, medical journals, and medical societies on this subject.

They favor the more frequent use of forceps, and condemn the so-called expectant management of labor. The axiom, "Meddlesome midwifery," has beaten a retreat before the clamor for the forceps.

The name of forceps points to its most striking characteristic, its prehensile power. Three distinct eras may be traced in this branch of medicine, having their pivotal influence in the forceps.

1st, The introduction of the original forceps in 1700; 2d, the important

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invention by Levret of the pelvic curve, in 1747; and 3d, when in our own times, 1877, Tarnier invented the traction-rod attachments to the forceps.

Baudelocque arranged methodically the pelvic positions and presentations in 1791. Prior to that time the sovereign powers of the forceps were greatly abused. Their introduction was a matter of haphazard and convenience. Even in the days of Ramsbotham there was a bitter controversy as to which was preferable, forceps or craniotomy.

A recent writer says: "The forceps are simple in their construction, easy of application, wonderful in power."

The successive stages of their development have, on the contrary, made them far less simple in construction; they have a wider range of application, and wonderful powers for life destroying as well as life saving.

All surgical operations are dangerous; it is equally true that elements of danger lurk about all cases of artificial labor.

To substitute traction for contraction, to introduce and use instruments in the genital tract, indeed to substitute art for nature's peculiar and inimitable methods, is always dangerous.

The most unanswerable argument against frequent use of forceps come from the gynæcologists. Good surgeons are relatively few, and delicate and dangerous operations in that branch are relegated to specialists among them; but most practitioners think themselves able to cope with any forceps case.

If skill in the use of forceps did not exist prior to Baudelocque's classification, how can we accord this virtue to operators with the forceps in these days, who are ignorant of the fundamental principles and admirable system upon which the present science of obstetrics rests?

The opportunities for the student of obstetrics are meagre, and, granting he is thorough in the theory of this department, he forgets it before he is intrusted with a practice. No wonder if he makes a medium-rate obstetrician, and sneers at the mechanism of labor.

To determine between the high forceps operation and version, to diagnose or rectify position above or at the brim, to apply the forceps accurately, and conduct safely the little passenger through the passage-way, are among the great achievements of medical science.

The high forceps operation is a critical one, and the operator should be chosen with as much care as for an ovariotomy.

The low operation is not so simple as to be left to "any tyro."

For practical purposes, it answers to designate all kinds of forceps in the order of their seniority of invention, as follows: The straight (Chamberlyn), curved (Levret), and traction-rod (Tarnier).

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It is high time to turn a deaf ear to the many names of individuals attached to forceps because of various modifications of lock, blades, or handles. They obscure the horizon of the subject; they distract attention and confuse the object, which, like that of the practice of medicine in all its departments, is life-saving cure.

There is but little need for straight forceps. The traction-rod forceps alone serve our purposes with satisfaction at and above the superior strait.

The welding and unification of the traction-rod and curved forceps in Tarnier's latest style well-nigh disarms criticism. It is a great achievement, one on which we may congratulate this age.

Think of the struggle and pity the sufferings of the man, woman, and child as the operator toils away with a straight forceps at the inlet. The pelvic curve added would only qualify, not remedy, the situation.

Still another modification and science has triumphed. The traction-rods, with relative ease and far less force, pilot the head through the upper narrows, and thence into the safer region of the low operation.

If we could only persuade operators of the salvation of traction-rods, covering all the indications for traction at the superior strait; of making traction during the pains, rhythmical, direct, slow; of supplementing, not superseding, nature; of utilizing all the vis-a-tergo, and only just enough of his power to bring the combined forces to the norm, and that all above that is abuse.

If we could get them to be careful, to halt, prospect, and protect the sphincters of the uterus and vagina, and to beware of rapidly unloading the organ, we would have a reform that would be as life-saving stations all along the passage-way.

I am fully convinced of the ability of the forceps to help. I protest that they should not be used regardless of the factors of delay. I plead for their judicious use.

As to the indication that the os should always be dilated or dilatable, judgment often goes to protest.

About two years ago I was in attendance upon a most tedious, nervous, and impatient primipara in whom the os was only three-quarters dilated. After a boisterous struggle of two nights and two days, slowly, almost imperceptibly, the dilatation increased. The patient's qualifications for abuse, however, grew more rapidly; I came in for a large share of it. She demanded chloroform and instrumental aid; the husband seconded her claim. The traction-rod forceps were applied; she was delivered in two hours under chloroform. A febrile trouble and tardy convalescence ensued; some months afterwards she became the patient of a clever gynæ-

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cologist. His operation told the tale of the "blundering obstetrician." I have never had an opportunity since to call the patient to an account.

One of the most important requisites for a good obstetrician is "to know how to wait and do nothing." In the first stage he must wait a long time, especially in primiparæ, before using forceps; indeed, he is not warranted in resorting to it except the mother or child is in jeopardy.

Far the most frequent use of forceps is in the second stage, and we are told "any tyro" can perform this operation. Nature can generally do it better and safer, if not so quickly. Time and patience cannot be too much extolled as virtues during the whole labor.

Let the attendant occupy the position of "watchful expectancy;" remove reflex disturbance, sustain by proper food, guard against fatigue, secure rest, assure and cheer, utilize the simpler methods of assistance, — let nature do all she can before we resort to forcible measures. I have lately limited the number of my forceps applications by manual pressure, according to the plan advised by Kristeller, of Berlin.

This and other manual helps are more in accord with nature's laws, and should be made use of. Instead of using forceps to curtail the sufferings of labor, we had better consider the very great efficacy of morphia, chloroform, and chloral.

As an insolated indication, it is doubtful whether pain ever warrants forceps use, nor would such cases necessarily end with less suffering after immediate delivery.

It is a common occurrence for women to demand that the accoucheur shall do something to help the physiological phenomena of labor. Dr. Robert Barnes denounced this as an old and bad practice.

Anæsthesia is the best treatment for cases of excessive nervousness and emotionalism in labor; not the forceps, as has been advised. Chloroform, during the pains, often makes labor of this sort more normal.

The nervous element is often misleading; it is not always the patient who is most noisy who suffers most, nor is it safe to be influenced by her cries for more chloroform or the forceps.

The loss of time by an accoucheur is not to be accepted as a warrant for resorting to instrumental delivery. We fear in these times of go-ahead-ativeness, this is a common source of abuse.

The forceps is a life-saving instrument for both mother and child, whether we are dealing with the first or second stage of labor, provided they are used judiciously and skilfully.

There is much difficulty in obtaining exact statistics as to the frequency with which the forceps is used. The figures vary with the country and with the operator. Ploss' tables show a wide difference in frequency

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of application in German, Swiss, and Russian maternities. In an aggregate of 333,054 labors, the forceps was applied 1,975 times, or one in thirty applications.

Ploss' tables for England make the least number of applications for any operator as one in 3,878. The operator with the greatest relative number was one in 7.8. Jacquemier's tables give 20,517 labors and 96 forceps cases, or one in 214.

These tables embrace a period from 1792 to 1862. Those were the days of the swaddling infancy of obstetric knowledge, when method was just inaugurated by Baudelocque.

Still they are useful in the light of history, in setting forth the wide range of opinion as to the frequent use of the forceps in those days.

Galabin says no one would now recommend so sparing a use of forceps as one in two hundred. He says that the statistics of St. Thomas' Lying-in Charity appear to show that a forceps rate of one in sixteen to one in eighteen deliveries does not endanger the mothers; but wider statistics are desired.

The Maternity Hospital, Philadelphia, shows the number of forceps applications in 1886 to have been about one in eight.

The Columbia Hospital, Washington, D.C., has had an average of about one in twenty. At the Maryland Maternity Hospital, Baltimore, we have used forceps 142 times in 1,495 deliveries, or one in 9.4.

The number of forceps applications at Vienna Lying-in Asylum during the past year was two per cent.

In my private practice, including consultation work, the average has been one in 10.5. I have found by inquiry of many practitioners that their average in private practice ranges from one in four to one in twenty-five deliveries.

It is to be deprecated that there is not a greater tendency to specialism in obstetrics. No man, ignorant of the mechanism of labor, and who does not know the rules for using the forceps, should ever undertake a high forceps operation. That clumsy, untutored, and unskilled hands do harm with the forceps even at the lower strait, cannot be denied. As long as this unfitness and want of training for obstetric operations exists, it will be humane to withhold our advocacy of a still more frequent use of forceps.

Nature has been defined as "the good will of God expressed in facts." We should crave her facts, and imitate her. We will be adverse to substituting art for nature so long as man is inferior to his Maker, except we act because of danger to mother or child.

We will not detain you with the enumeration of the many accidents

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and injuries which befall the mother and child at the hands of the forceps. Suffice it to say, they embrace a large part of every recent work on gynæcology.

We sadly need statistics to settle the wide differences among obstetric operators with the forceps as to the frequency with which they may be used. Our judgment is, that the average of one in fifteen or sixteen applications of forceps, as suggested by Dr. Gallabin, is a fair one. The pendulum having properly left the position of too great infrequency, has gone to an unwarranted extreme in point of frequency.

The obstetrician would do well to be found in the good company of the physician in the prevention of disease, the surgeon in his conservatism and in line with the modern sanitarian.

PELVIC AND ABDOMINAL DRAINAGE.

BY DAVID PRINCE, M.D., OF JACKSONVILLE, ILL.

In any case in which a patient dies, and on examination of the body it is found that there is a condition of putrefaction within the peritoneal cavity, it may be assumed, other conditions being the same, that there should have been drainage to carry off the fluids before they became putrid. To carry them off after becoming putrid may be better than not to remove them at all, but the primary drainage of non-putrid liquids would of course have prevented their putrefaction.

In all cases, therefore, in which secondary drainage is ultimately indicated, primary drainage, properly managed, would have prevented the subsequent putrefaction and the indications for secondary drainage.

In any other kind of wounds, the necessity for subsequent or secondary drainage implies that if the wound had been drained in the first instance, the putrefaction requiring secondary drainage would not have occurred. This is upon the supposition that the primary drainage is so managed that no putrefactive changes occur in the wound. The presence of putrefaction in connection with primary drainage may be taken as evidence that the management of the drainage has been defective. The management of primary drainage, to be efficient, must be, not simply the furnishing of an outlet for the discharge of fluids, because it is impossible to prevent the entrance of air while the plug is removed and the tube is open. The greatest objection to primary drainage without irrigation has arisen from the consideration that the tube which lets out fluids also lets in enemies floating in the air, which enter and fill the tube immediately

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upon the cessation of the flow of fluid from within, and before the tube is again plugged with cotton.

In drainage without irrigation this must happen, unless the flow is constant. In the drainage which occurs immediately or during a few hours after tapping for ascites, the flow of fluid is constant, and, therefore, destructive agents do not enter against a current which fills the opening, the case being, that with the cessation of the current the opening spontaneously closes.

In the puncturing of the integument of the feet in anasarca it is rare that any morbid inflammation occurs, because the flow is constant, and on its cessation the puncture becomes closed by organizable lymph. With a non-collapsable inorganic tube the case is different. The tube does not close with the cessation of the current or diminish with the amount of the flow. This is a general consideration which illustrates the frequent failure of abdominal and pelvic drainage, when practised without proper provision for the introduction and withdrawal of antiseptic liquids which are preventive of putrefaction.

Inflammation, according to the old definition, *i.e.*, an event characterized by pain, redness, heat, and swelling, is an occurrence devoid of danger and soon to disappear; but when pathogenic complications occur, there is the most urgent necessity for correcting the morbid changes and removing what never ought to have got in.

It is assumed here that when secondary drainage is necessary, it ought to have been primary; but this is assuming what may sometimes be impossible to know beforehand. It may be inferred from this drift that dependent drainage, or that in which fluids escape by their own weight, is very desirable in wounds of the peritoneum, as well as in those of other parts.

An ascending drainage, to be efficient, must be made by means of suction, and that cannot act beyond the inner end of the drainage-tube at the close of the pumping process, so that a little fluid must every time be left behind. In dependent drainage, the fluid as it is formed flows toward the tube, and makes, therefore, no accumulation in which putrefactive changes can occur. In dependent drainage the injection or flushing fluid flows back and escapes immediately, while in ascending drainage the irrigating fluid may escape, and not be recaptured. There would be no harm in this if the antiseptic were itself of a non-irritating or non-poisonous character. In the case of a solution of Hg. Cl_2, it is desirable that all the fluid shall escape right away after it has bathed the surfaces to which it is intended to be applied.

In the male patient, descending drainage may be impracticable, un-

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less it is made through the rectum, while in the female it is always practicable through the vagina by an orifice made behind the uterus. In total extirpation of the uterus, there being already an opening into the peritoneal cavity, the problem of descending drainage is very easily solved.

The accompanying figure illustrates a form of drainage-tube the upper end of which is stitched fast by a long thread, which may be cut at the lower end and pulled out, when the presence of the tube is no longer necessary.

This tube is made large enough so that a smaller tube may be introduced for the purpose of irrigation.

It differs from the tube of Dr. A. Martin, of Berlin, in being retained by a stitch, and not held by a complicated cross-piece at the inner end of the tube.

In a laparotomy, in which the tube is introduced through an opening made for the purpose, the stitch is introduced inside the pelvic cavity. In case of an operation from below, removing the uterus, the stitch is introduced, the operator working from below.

The figure shows the tube wrapped over the upper portion with gauze antiseptically treated, so as to prevent the ascent of noxious agents along the outside of the tube.

The next figure shows the trocar, by which an opening is made behind the uterus.

1. It is assumed that in cases in which drainage is employed, all the conditions of success should be observed, including suction and irrigation.

2. It is assumed that after the production of extensive raw surfaces within the peritoneal cavity there should be drainage. The recovery of large numbers of such cases without drainage does not prove that it is not important as a general rule. Cases in which there are no raw surfaces, or only very small ones, may be left without drainage.

The character of the air which enters the peritoneal cavity is worthy of consideration. An exposure to the air of a room covered by a carpet, and therefore full of dust, may require drainage, while a dustless air, the dust being removed by cotton, or being absent through other means, constitutes a condition making drainage less necessary.

The greater the tendency to decomposition in the fluids exuded from the injured surfaces, the greater the necessity for drainage. The greater the prostration of general health, the greater need of drainage. The purer the air and the better the general health, the shorter the atmospheric exposure, and the more free the peritoneal cavity is from substances introduced from without, the less the necessity for drainage.

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Fig. 1. Drainage of the utero-rectal cul-de-sac by a tube 15 millimetres in diameter, stitched fast by a suture, to be ultimately released by cutting at the lower end of the tube.

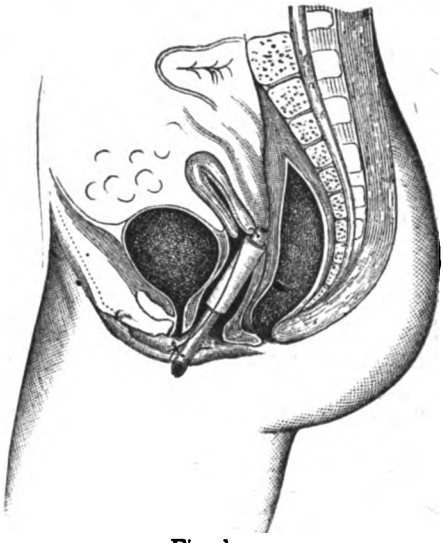


Fig. 1.

The large drainage-tube receives a smaller tube for flushing the drainage area, and in the interim the small tube is withdrawn and cotton is kept in as a filter for the entering air.

After total extirpation of the uterus through the vagina, the tube is introduced and fastened to some of the tissues to prevent its being accidentally displaced.

For pelvic drainage in a man, the large tube should be introduced through the rectum, after which the management is in the same way.

Fig. 2. A curved trochar, six inches long — the canula having a slide to go over it for the passage through the basis of the cul-de-sac following the penetration by the trochar. This triangular follower is intended to pull

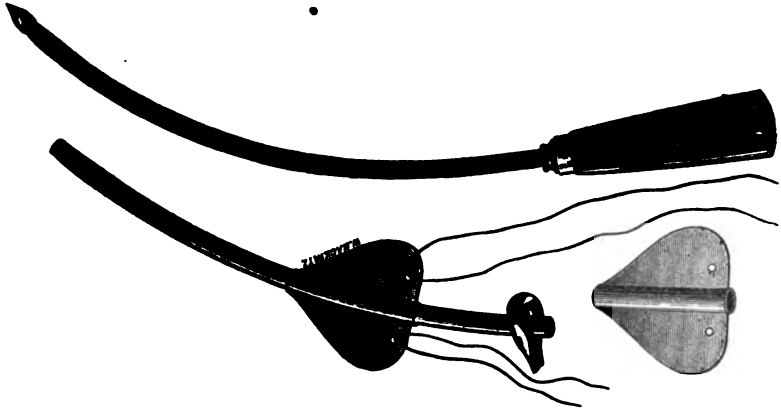


Fig. 2.

in the large drainage-tube by the thread attached, which, when armed with a needle, fastens the upper end of the tube to the neighboring tissues. The thread is fastened or knotted to the lower end of the tube. On cut-

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ting this knot the tube is released, and can be drawn away when no longer needed.

Addendum. — The following case illustrates the employment of this drainage-tube. Total vaginal extirpation of the uterus.

Mrs. Jenkins, aged 45, of good stature and general make-up, had been troubled with hæmorrhage and a foul-smelling discharge for several months. The os was large and the cervical canal was the seat of epitheliomatous degeneration.

February 11, 1888. The anæsthetization was commenced at 1.30, and the operation was finished at 4.30. The pulse and temperature kept up pretty well. At the beginning of the operation, and again at its close, a hypodermic injection was given containing —

℞. Morp. ¼ grain, .016 grams.
Fl. Ext. Digitalis, 6 minims, .3900 cubic centimetres.

The uterus was first transfixed as high as possible, and a thread was drawn in, in order to serve for drawing down the organ. The work was done by scissors; first encircling the neck, and after that, tying a portion of the tissue of the broad ligaments, and then cutting between the ligatures and the uterus. The body of the uterus was not turned out by anteverting it or retroverting it, till just at the last, and one side was finally detached before the other. After the first incisions, everything was tied before being cut. The bladder was torn in two places, but the accident was not known at the time it occurred. A wide opening into the peritoneal cavity remained, and no attempt was made to close it.

The drainage-tube just explained was introduced, and held in position by the long stitch shown in the figure.

It was found by examination after the operation that the left side of the uterus had been shaved close; but on the right side a part of the round ligament had been brought away along with the uterus.

The organ, after removal, weighed 5 oz., or 160 grams.

Breadth from the root of one horn to that of the other 2¾ inches, 76 mm.

The cancerous degeneration filled the whole cervical canal, but had not ascended into the cavity of the body.

In the management of the drainage-tube the upper part of the tube was wrapped with six turns of iodoform gauze for the purpose of preventing the free entrance into the peritoneal cavity of fluids or gases outside of the tube.

A smaller tube was inserted through the larger tube to its inner extremity every three hours, by which the lower pelvis was injected with weak solution of carbolic acid. Once a day a sublimate solution (1-10000)

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was employed. In the mean time a cotton plug was kept in the large tube.

The highest rate of pulse in the progress of recovery was 120, and of the highest temperature 100°. The recovery was slow, but free from any reverse. September 15 a plastic operation has been made for the closure of the leak in the base of the bladder, but this has not been completely successful. There has been return of the carcinomatous growth.

I have made four total extirpations of the uterus: —

1st, 1884: The patient dying of hæmorrhage from insecure closure of the arteries.

2d, 1885: An operation by laparotomy (Freund's method), the patient dying in twenty-four hours from shock, never having become warm after the operation.

3d, 1888: The case just referred to.

4th, vaginal: The patient dying in twenty-four hours from shock, having become warm after the operation.

The first died through want of skill. The other two fatal cases were in extremely prostrated health, and the shock was a result not strange to have occurred.

Addendum No. 2. — Intimately associated with drainage of a wound is the manner of dressing. It is sometimes desirable to have the outer end of a drainage-tube surrounded by the material of a permanent dry dressing which will be an absorbent, and at the same time an antiseptic agent.

The same desideratum of an absorbent, by a material which is at the same time in some degree soluble, applies to wounds which are not drained, in order that any oozing between the stitches shall meet a soluble antiseptic, making septic infection impossible from this source.

Nothing yet employed by the writer fulfils the indications so well as dry powdered boric acid. It is applied in large quantity over any wound, without any intervening substance. If a drainage-tube is employed without the purpose of subsequent suction and irrigation the outer end is buried in the dry powder. The object of the drainage would be in this case the escape of slowly effused blood, in order to save the cutaneous flaps from distention, and to avoid the subsequent slow absorption of the clot. The clot is better to be in the boric acid than in the wound.

It is necessary to have the wound in such case covered by powdered boric acid an inch thick.

If the flow of blood should occur with much rapidity, it may escape along the surface from under the dressing, which can only absorb the blood slowly. In that case the dressing should be removed and replaced by new boric powder.

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For a dressing for fixation, as for a compound fracture, the boric powder works well with a gypsum splint superimposed; the gypsum having been wet with a solution of sublimate, one to a thousand.

It is not necessary that the boric acid should be chemically pure. The commercial powdered boric acid is sufficiently pure for this purpose. Boric acid smarts a raw surface, so that there should be a thin covering of antiseptic muslin, made so by carbolized oil or other unirritating material.

As boric acid cannot act as a gas, it cannot exercise antiseptic properties beyond the reach of its solution.

In cases of sloughs already in a putrid condition, it is found that a layer of the powder, thick enough to absorb all the fluid produced during some hours, is rendered effective in combating further septic progress, by burying oil of cinnamon (oil of cassia) in the boric acid. The vapor of the oil penetrates the powder, and penetrates the slough to some extent.

The antiseptic capabilities of oil of cassia have been developed by Dr. G. V. Black, and he has found by culture experiments that it is superior to true oil of cinnamon.

The oil should not come directly in contact with the skin, on account of its irritating character.

The occurrence of pain, heat, swelling, and redness, events formerly enumerated to define inflammation, requires a wet dressing, which should be at the same time antiseptic. In case of suppuration it should be made to penetrate to the depth of the inflammation and constitute a drainage.

Accidental wounds, that have been exposed to the air a considerable time, do best with a wet dressing, which amounts to a perpetual irrigation.

If the wet dressing is allowed to become hot and odorous, from the decomposition of infiltrated fluids, it becomes a poison, instead of a preventive. It is, therefore, necessary to renew the liquid application at stated periods, and a safe period is twenty minutes.

DEFORMITIES IN THE FŒTUS FOLLOWING ACCIDENTAL HÆMORRHAGE DURING PREGNANCY.

HORACE Y. EVANS, M.D., PHILADELPHIA.

Mrs. Blank, aged thirty; married two years; primipara; general health good. At the end of the fifth month of pregnancy, while riding in a carriage, one of the springs broke, causing a shock and fright, which, six

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hours later, was followed by uterine hæmorrhage. The os was patulous, dull pains in the back, but no distinctive uterine contractions. The hæmorrhage continued twelve hours, and, at the lowest estimate, the amount of blood lost was half a pint. After a week's rest the patient was enabled to go about, and continued well until her full term. The presentation and position of the child was the right occipito-posterior. Saving the tardiness in delivery and perineal laceration, *consequent* to this position of the head, nothing unusual occurred. The child when born was asphyxiated, but was soon resuscitated. The cord was eighteen inches long and very lean. The secundines were removed without difficulty, and no unusual loss of blood followed. The placenta was of an irregular oval shape, one of its edges being *shrunken and cicatricial.* The separation of this segment from the uterus was no doubt the occasion of the hæmorrhage at the end of the fifth month. The child was born with strangulated umbilical hernia; failing to reduce it by taxis, I opened the amniotic sheath, nicked the constricting band, and returned the intestines to the abdomen. One knuckle of the intestine was inflamed and covered with organized lymph. The child evacuated the bowels three times after the reduction of the hernia. Although the umbilical ring appeared to be normal, yet the abdominal parietes between the umbilicus and pubes were defective. The aponeuroses at the linea alba were rudimentary. The descending oblique muscles of one side were not united to those of the other side of the abdomen. The genitalia were especially unique. The scrotum was divided into two folds, resembling, as to position, the greater folds of the female vulva. The right fold contained a testicle; the left one, though equally as large as the right, was without a testicle. A rudimentary penis was located in the raphe *between* the scrotal folds. The uncovered glans penis only being visible. The child had talipes-varus in both feet. The anterior chamber of the right eye was filled with an opaque milky humor. The child died of inflammation of the bowels on the third day.

I am intimate with the history of two generations of the mother's family, and know of no deformity in any of them. The father of the child is without any physical irregularity.

Umbilical hernia and talipes may happen as a *lusus naturæ;* but I am disposed to credit the opacity of the aqueous humor, the immature condition of the abdominal parietes, and the rudimentary genitals, to the partially incapacitated placenta.

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TERATOLOGY.

IT is with great pleasure that we observe among our subscribers and correspondents a deep interest in the subject of teratology. Let it never again be said that the profession in America is not interested in purely scientific subjects. Possibly this branch of special study is in general, and as a whole, somewhat abstruse, but concretely presented in the form of a comely diplo-teratological female, it has aroused an amount of interest which we had never anticipated. Many correspondents have written in a somewhat sceptical vein, requesting information about, and especially a picture of, the corresponding three-legged and doubly endowed man, a photograph of whom was enclosed by Dr. Bechtinger when he sent the communication concerning the woman above mentioned, which was published in the July number.

In correspondence with our greatest authority on teratology, Dr. Geo. J. Fisher, of Yonkers, N.Y., it became evident that the male individual in question is identical with the one first described as an infant by Acton, and afterwards by Dr. Fisher, in his exhaustive monograph on diplo-teratology, embodied in the Transactions of the New York State Medical Society.

Dr. Gihon has also had the courtesy to send us from California photographs of the same individual, and we have been informed by Dr. Gray, of the Army Medical Museum, that there is a cast of the same person extant in Washington. As it is evident that the subject is new to many of our subscribers and exchanges, and in order to answer at once and in full the numerous letters which we receive on the subject, we publish in this number the plates, and an abstract of the description of Dr. Fisher, mentioned above. (See p. 100.) As far as can be ascertained the two cases are each unique of their kind, certainly so as a pair.

DURING the past year we have devoted much attention to the illustration of pathological subjects, both in gross and microscopically, believing such illustrations to be a valuable and permanent addition to our means of understanding disease. In this work we solicit the assistance of others who may be laboring in the same field, and who can furnish us with photographs or drawings of instructive morbid specimens or of microscopical preparations. The *negatives* of photographs should preferably be sent; drawings should be executed in clear, distinct lines, of equal blackness; special ink, adapted for making drawings which are to be photographed, can be obtained of the dealers in artists' materials.

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TITLE-PAGE AND INDEX. — A title-page and index are in preparation for Vol. I., and will be put into the December number in a detachable form.

WITH the copies of this number of the ANNALS are enclosed the bills for Vol. II. In conformity with the notice on the cover of Vol. I., No. 1, and of the statement published in the number for last August, the price of subscription has been raised to two dollars per annum. Subscribers will readily see that this is a low price, considering the cost of the illustrations and the character of the Journal. An early settlement of subscriptions will be appreciated.

AMERICAN MEDICAL ASSOCIATION. — The fortieth annual meeting will be held at Newport, R.I., on the *fourth* Tuesday, the 25th of June, 1889. It will be noticed that the date has been changed. The meeting has been so planned as to coincide with the 250th anniversary of the settlement of Newport.

The *Committee of Arrangements* is as follows: H. R. Storer, Chairman; C. F. Barker, M. E. Baldwin, C. A. Brackett, J. P. Curley, P. F. Curley, J. P. Donovan, H. Ecroyd, Jr., V. M. Francis, T. A. Kenefick, G. M. Odell, F. H. Rankin, W. C. Rives, Jr., S. H. Sears, W. S. Sherman, H. E. Turner; W. Thornton Parker, Local Secretary.

Associate Committee. — G. D. Hersey, W. H. Palmer, G. T. Swarts, of Providence.

ITEMS.

DR. T. G. THOMAS has resigned from the Woman's Hospital in the State of New York. The Medical Board has requested the Board of Governors not to fill the vacancy for the present. — *Am. J. of Obs.*

DR. M. ROSENWASSER has been appointed to the chair of Gynæcology, in Wooster University, formerly held by the late Prof. A. C. Miller.

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OBSTETRICAL SOCIETY OF PHILADELPHIA.

THURSDAY, OCT. 4, 1888.

Dr. T. M. DRYSDALE in the chair.

Dr. JOSEPH PRICE reported the following recent work in abdominal surgery: —

Removal of appendages for chronic salpingitis with occluded tubes and adherent ovaries, one side, 1.

Both sides, 7.

With double ovarian cystoma, 3, and with hydrosalpinx, 1.

For uterine myoma, 1.

For uterine fibroma, 2.

For double pyosalpinx, 2.

With purulent peritonitis, 12.

With ovarian abscess on one side, 1.

With peritonitis and double ovarian cystoma, 2.

One-sided pyosalpinx, 6.

With post-puerperal peritonitis, 1.

With ovarian abscess same side, 1.

With ovarian abscess on opposite side, 1.

With ovarian cyst one side, 1.

With suppurating ovarian cyst and broad-ligament cyst, 1.

For double hydrosalpinx, 1.

For hydrosalpinx one side, with ovarian cyst, 1.

With ovarian and broad-ligament cyst, 1.

For double dermoid cyst with general peritonitis, 1.

For dermoid cyst of one side with suppurative and purulent peritonitis, 1.

With cyst on other side, 1.

For ovarian cysts, simple, 6.

With salpingitis, 1.

For double ovarian cystoma, with double salpingitis, 1.

With fibroid uterus, 1.

For extra-uterine pregnancy, 4.

With cyst on opposite side, 2.

With double abscess of one ovary and colloid cyst of other, 1.

For miliary tuberculosis of appendages, 1.

For ruptured papillomatous ovarian cysts, 1.

For hysterectomy, for fibroid uterus, 1.

For sarcoma of uterus and intestines, 3.

Exploration and drainage, 2.

Resection of bowel for carcinoma of intestine and abdominal walls, 1.

Obstruction of bowels, 3.

Sarcoma of spleen, 1.

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Pelvic abscess, 1.

Post-puerperal peritonitis, with removal of omentum, 1.

Perforating typhoid ulcer, 1.

Ventral hernia, 1.

Total, 65.

Mortality: One death — double pyosalpinx with double ovarian cyst and purulent peritonitis. Autopsy showed pyonephritis — 7 days.

One death — extra-uterine pregnancy; moribund 36 hours before operation — 24 hours.

One death — supra-vaginal hysterectomy for sarcoma of uterus and all abdominal viscera — 4 days.

One death — resection twenty inches of large and small intestine for carcinoma; hopeless — 26 hours.

One death — exploration and drainage. Large multilocular cyst right ovary; general malignancy; parent cyst evacuated; hopeless operation for temporary relief — 4 days.

One death — perforating typhoid ulcer; evacuation of large quantity of muddy fluid and lymph; reacted well for 12 hours — 36 hours.

One death — hysterectomy for sarcoma of uterus and left ovary; bowel involved — third day.

One death — strangulation of ileum; released adhesions; recurring attacks of collapse for three days before operation; hopeless — 25 hours.

Total deaths, 8.

The mortality list gives a small group of those hopeless cases we are called upon to give some relief. In short, they simply command you to do *something* for relief. If there is one chance, they demand it. As a rule they have been seen by one or many physicians, and have refused any early operative interference, or delay has been advised. We find in such cases just those pathological conditions that should, at least, induce us to recommend, nay more, to insist and urge, the removal of all such murderous diseases. If all operators and practitioners recognized the importance of early operation in these and analogous conditions as they do in strangulated hernia, the mortality would be greatly reduced and a world of suffering saved. Early interference in ovarian cystoma is generally taught now. The importance of the early removal of the appendages in fibroid and myomatous uteri has not received that attention it deserves. The tubes and ovaries are diseased in a majority of these cases, and much of the suffering is due to their pathological condition. The mortality and the suffering in pelvis inflammations, the sequelæ of gonorrhœa, are very great, and the country is covered with neglected cases. If cases carrying typical large pus tubes in this city were distributed, there would be at least one in every street, alley, and court. In my experience with small tumors in young women, I have been convinced of the propriety of early removal, on account of accidents incident to their development and growth. Many are dermoids, and prone to strangulation and suppuration, recurring attacks of localized peritonitis complicating their condition. I have been called upon to operate upon at least six of these young women in bed, emaciated, with quick pulse and high temperature.

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The general condition bad for so serious an operation as abdominal section. If these operations are done early, while the patient is in fair condition, every risk of the operation is minimized, — short anæsthesia, short incision, rapid enucleation, secure ligaturing, thorough irrigation, and good drainage, — the mortality will be very low, and the much-complicated and desperate cases rare.

Dr. J. M. BALDY thought that such an opportunity, as was now presented by one of the cases presented by Dr. Price, should not be neglected, and that he would say a word about early operation in cases of tubal disease. A great deal of condemnation had been expressed of these operations on the ground that very little trouble was likely to arise subsequently. The case referred to had been under the care of Dr. Daland, and that he had had the pleasure of examining the post-mortem specimens with the doctor. The specimens, together with the clinical history, set the subject forward in a very vivid way. The history of the case was, from the beginning, one of tubal inflammatory trouble. Seven years before her last illness she had fallen into the hands of one of the oldest and best-known gynæcologists in the city, but one who is not an operator. Dilatation and other well-known methods of treatment were persisted in for months. Her real condition was evidently not recognized. She went on from bad to worse, and finally in her last illness fell into the hands of Dr. Daland. She fell into collapse three times during this sickness, and an operation was urged both by her attendant and the consulting surgeon; their hands were, however, tied by the consulting *physicians*. At the last moment an operation was agreed to, but the patient died. The specimens and autopsy showed double pyosalpinx, with both ends of both tubes impervious. Intestines were bound down in a mass on the tubes, and strangulation had occurred. Such a condition of affairs should not have been overlooked by any one, and an operation was strongly indicated. The case operated on any time during those seven years would have been saved with little risk. The case ran a course quite common, and which can only be prevented by early operation. In answer to a question from Dr. DaCosta, as to how he knew there had been this condition seven years ago, he said that the woman had suffered continually with the same symptoms from the first. That she had either had the same condition then, or it had been aggravated from a mild to a severe form of the disease by the treatment she had received.

Dr. WM. GOODELL could corroborate the statement that the appendages were diseased in fibroid tumors. The larger the tumor the more likely are the ovaries and tubes to be diseased and the harder to remove. He was not sure but that in young women, where the tumor was growing rapidly, it would not be better to remove the appendages early. Some years ago he had thought that dermoid tumors were solitary, but that two years ago he had removed a dermoid from each side, and had since noticed in the literature a number of others reported.

Dr. M. PRICE said that the delay in treatment of many of these cases was due to the erroneous teaching in regard to inflammatory pelvic troubles. His belief was firmly fixed that they began as tubal trouble. In such cases leakage took place and set up other inflammatory trouble. He had been called in consultation to a case recently which was being treated as cellulitis, as usual. The patient had been an invalid for years, had been blistered, etc. The attack was relieved temporarily,

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but had subsequently returned, and she was now in a bad septic condition. The tubes contain pus, and the woman will either die of her trouble or be relieved by an operation. Her attending physician is a good man, but he has been taught that every trouble in the pelvis of an inflammatory character was cellulitis.

Dr. HOFFMAN had lately come across a patient with fibroid tumor who had been operated on three years before, but whose appendages had not been removed. She had great pain, and in one of our large institutions her trouble had been pronounced *uterine neuralgia*. The operation revealed the colon adherent throughout almost its whole extent. Both appendages were diseased, and he had absolutely to dig them out. These difficulties probably caused the former operator to stop, and he would not have overcome them had it not been for the kind aid of Dr. Price.

Dr. THEOPHILUS PARVIN exhibited a specimen of extra-uterine pregnancy removed by Mr. Tait in the latter part of August. Pregnancy was supposed to have advanced six or seven weeks. Rupture had taken place two days before the operation. The patient was doing well when he last heard of her condition, four days after the operation. He thought that Mr. Tait was really the most wonderfully expert abdominal surgeon he had ever seen. In his work no antiseptics are used; perfect cleansing of the hands with soap, water, brush, and towel; perfect cleansing of the abdomen; incision through the skin and underlying tissues; hæmostatic forceps used if necessary, but frequently not required; the use of forceps to take up the tissues as the peritoneum is approached; the raising up of the peritoneum almost an inch, so that there is no risk of injuring anything beneath the membrane; incision into the peritoneum; the moment the incision is made the introduction of one or two fingers, or rather the index-finger and the thumb. In this case the diagnosis was not positive, only probable, before opening the abdomen, but as soon as he had introduced his fingers into the abdominal cavity he said that it was a case of extra-uterine pregnancy with rupture of the tube. It took probably five minutes to bring up the ruptured cyst and ligate the tube with the Staffordshire knot. After removing the tube and ovary, water was poured in through a funnel to which was attached a rubber tube with a nozzle. The metal nozzle was pushed around in all parts of the abdomen so as to wash out all of the clots. In this particular case two pitcherfuls of water were used, a drainage-tube was introduced, and three stitches closed the abdominal incision. This patient did not have a temperature above 100°, and when seen three days later her recovery seemed almost absolutely certain.

Dr. PARVIN also exhibited the following instruments: *The axis-traction forceps of Dr. Stephenson*, Professor of Obstetrics in the University of Aberdeen. The forceps closely resembled the Simpson, being only a little longer and the pelvic curve greater. The traction is hooked on in front of the lock after the forceps is applied.

Delore's flexible blunt hook.

Pajot's curette for removing the remains of a miscarriage, consisting of a curette, the curve of which may be altered while the instrument is within the cavity of the uterus, and to which different-sized extremities may be attached.

Doleris' écouvillon, for brushing out the cavity of the uterus after incomplete

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abortion. Before introducing the instrument it is dipped in an antiseptic solution. To this treatment its inventor has given the name of *écouvillonnage*. Sometimes the use of the cûrette precedes that of the *écouvillon*.

Mathieu's instrument for washing out the uterus, consisting of two tubes lying closely together, with small openings on their approximated surfaces. After introduction into the uterus the two tubes are separated by means of a screw, leaving a space for the water to flow from the uterus.

Dr. WM. GOODELL thought that after seeing Stephenson's forceps he could justly lay claim to all priority in the axis-traction device. Many years ago, in his work at the Preston Retreat, he found that his back so often gave out while making axis-traction with his left hand on the lock of ordinary forceps, that he sewed a stirrup to the end of a leather strap. The other end of the strap he wound around the forceps' handles, near the lock, and in the stirrup he placed his foot. He usually hung the strap so near the floor that his heel rested on the latter, the traction force being made merely with the toes or ball of the foot. He thought Dr. Price had probably seen this impromptu device hanging on a gas-fixture in the lying-in room of the Retreat. Of course the woman lay on her back with her nates drawn over the edge of the bed.

Dr. PRICE remarked that he had seen the device spoken of by Dr. Goodell.

Dr. B. F. BAER read the following report of two cases of multilocular ovarian cystoma of unusual size and very rapid growth: —

Mrs. T. was sent me by Dr. J. A. Clark, of Bedford, Pa., and on July 31 entered my private hospital. She is aged 28 years; married; has had two children after normal labors, the youngest being six years of age. About nine months previous to this date she was attacked with severe pain in the right ovarian region, and was confined to bed for several weeks. Her menses had always been regular; but at this time the flow was profuse, and continued two weeks. Soon after this attack of pain and metrorrhagia she noticed a swelling in the painful region, on the right side. She rapidly increased in size, and began to lose flesh, and occasionally to have attacks of pain and metrorrhagia similar to the one noted above, the flow for several occasions lasting for a month. Her abdomen was enormously distended, especially in the upper portion. It was rather symmetrical, dull on percussion all over the interior and lateral portion, except in the lumbar regions, where slight resonance was observed. There was fluctuation in the lower part, but in the upper portion it was very obscure. The skin on the lower surface of the abdomen was in a condition of elephantiasis.

Vaginal examination revealed the uterus slightly retroverted, rather mobile, and gave a sound measurement of three inches. The lower surface of the tumor could just be felt by the vaginal examination. The patient had a very weak pulse; indeed, it could not be felt at all at the left wrist, and she had great dyspnœa on the slightest exertion.

Operation was performed on August 2; I was assisted by Dr. J. D. Brown, G. H. Franklin, J. A. Clark, and H. C. Bloom. An incision three inches in length was made in the usual position. The skin at the point of the incision was fully half an inch thick, and very vascular, and considerable subcutaneous adipose tissue was

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present. As soon as the tumor was reached it presented the appearance common to ovarian growths; but it was found to be closely adherent to the abdominal wall. After separating as far as the finger would reach, the tumor was punctured with Tait's large trocar, and about four gallons of greenish fluid drained away; but only the lower portion of the tumor collapsed, the greater and upper portion remained as before. This was punctured in a number of places without removing the instrument from the cavity which had been drained, but nothing followed. The opening in the tumor was now enlarged, and the hand introduced. The multilocular condition was broken down, large pieces of semisolid substance being torn loose from the cavity of the tumor and brought away, together with a great deal of semifluid *débris*. As soon as room was gained the hand was carried outside the tumor, when it was found to be adherent to the liver, stomach, and everything with which it came in contact. These adhesions were carefully separated, and after considerable effort the remainder of the tumor was finally brought out through the incision, which had been previously increased to 3½ inches. The pedicle, which was found to be thick and quite vascular, was transfixed and ligated, and the tumor cut away. The cavity was irrigated with filtered boiled water, as much as two gallons being used. The irrigating tube was carried in every direction until the water returned clear. The right ovary was not removed, it being in apparent health. The wound was closed around a drainage-tube. There was considerable shock. The pulse could not be felt at either wrist, and it was two days before it returned, although the patient seemed to be doing well. The usual after-treatment was carried out, and the patient has made an excellent recovery. She went home (250 miles) on the 27th day, and still remains in good health. The temperature never rose above 100°, and the drainage-tube was removed on the second day. The tumor was a multilocular cyst, and weighed about 90 lbs.

On September 5 I was asked by my friend, Dr. R. Armstrong, of Loch Haven, to meet him in consultation in a case of abdominal tumor, which he stated was in such extreme condition that he feared she might not live until my arrival.

I saw the patient on September 6. She is 21 years old, and single; puberty had occurred at twelve, and menstruation had always been profuse, coming on every three weeks, and always attended with some pain; she did not consider this abnormal, and so far as she knew was perfectly well up to *four months* previous to the above date. In the latter part of April of this year, after unusual exertion about the house, she was suddenly attacked with severe cramp-like pain in the right iliac region, so severe, indeed, as to alarm the neighbors by her outcries. This attack occurred about the time of her expected menstruation, and continued until the flow followed, when she gained considerable relief. But she remained ill from that time, being able to go about, however, in the intervals between the series of attacks of pain of similar character which now followed. Within two weeks after the first attack she noticed that her abdomen was increasing in size in the painful region, and from that time to the present, *just four months*, her abdomen has grown to an enormous size. I found her occupying a semi-recumbent posture, and breathing with difficulty. She was emaciated to such a degree, and the tumor was of such size, that she was almost hidden from view beneath it. The surface of the abdomen

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was purple from interference with the capillary circulation, and the veins were greatly distended. The abdomen was symmetrical and smooth. Fluctuation was rather obscure. There was dulness on percussion all over the anterior and lateral surfaces of the tumor, except at a point far back in the left lumbar region, where slight resonance was found. On the upper right border of the tumor, in the region of the liver, there was an apparently solid mass, shaped somewhat like the liver, suggesting the possibility that the cyst had grown from that organ. This was given more prominence on account of the rapidity of the growth. The patient was unable to retain anything on her stomach, and she had not slept, except at short intervals, for weeks. Her bowels were constipated, and the urine was passed frequently, and in small quantities. Her pulse was 140, and very feeble. Her expression was an appealing one, and she begged to be relieved.

A tablespoonful of whiskey was given and repeated in two hours, just before the administration of the anæsthetic. I was ably assisted in the operation by Drs. Armstrong, Ball, and Watson, of Loch Haven. An incision two inches in length was made. The surface of the cyst was adherent to the peritoneum. After separating the adhesions as far as I could, I plunged a large trocar into the tumor. But the contents were semisolid. I therefore cut through the cyst wall, and proceeded to break up and remove the contents. The cyst was adherent to everything it touched, — liver, stomach, and other viscera; but the adhesions were weak, and, in ten minutes' time the tumor was removed, and the pedicle, which was thick and vascular, was ligated. The omentum was so firmly adherent to the cyst that it was ligated and amputated. The friable cyst wall was ruptured in many places, and a great deal of the viscid, semifluid material escaped into the abdominal cavity; but I did not lose time in trying to prevent this. When the tumor was removed, what was left of the patient was an exceedingly small portion. The emaciated abdominal walls lay close to the spinal column, and sunk into the pelvis. She looked more literally "nothing but skin and bones," than anything I had ever seen before. The abdominal cavity was thoroughly washed out by irrigation through a fountain syringe, and I was careful to pass the nozzle high up among the intestines, and under the surface of the liver and diaphragm. The water returned clear, and the incision was closed around a drainage-tube, and the patient returned to bed with a better condition of pulse and appearance than she had before the operation. She did not show any evidence of shock, and was conscious almost as soon as she was placed in bed. Her body was so emaciated that it was necessary to pack with cotton about the pelvis and along the spinal column, as the bones almost projected through the skin, and at several places bed-sores were apparent. The right ovary seemed smaller even than its natural size and appeared healthy; it was, therefore, not removed. The after-history of the case has been without event. Her temperature never rose above 100°, and was normal on the third day after the operation. The pulse gradually diminished from 140°, and was normal on the fifth day. The drainage-tube was removed within thirty-six hours after operation. The sutures were removed on the eighth day, when union was found complete, except at the lower portion, where the drainage-tube had been; and this has since healed. She began taking solid food on the third day, and on the fourth day her bowels were moved. The tumor weighed about seventy-five pounds.

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The points of considerable interest in these cases are the location, character, and severity of the early symptoms, as well as the location of the tumor when first noticed (on the right side), while the tumors were of the left ovary, the right being perfectly healthy; the large size and very rapid growth of the tumors; the rapid recovery of the patients, although in extreme condition, especially of the case last mentioned; the fact that the two cases are alike in nearly all particulars, the only difference being that in the second case the rapidity of the development was much greater, and the severity of the symptoms likewise greater; and, lastly, the method of removal of the tumor; that is, the breaking up of the semi-solid contents with the hand, thereby permitting their removal through a very short incision. I wish here to especially call attention to a fatal case which occurred in my practice several months ago, and which forcibly illustrates that there may be danger in introducing the hand for the purpose of breaking down contents of the tumor, not knowing exactly the location of the intestines. In the case referred to the friable wall of the main cyst had ruptured, and some coils of intestines were found to be in the cavity, and closely adherent to the more solid portion of the contents. Very careful manipulation was necessary to separate the bowel, which was finally done after considerable time had been spent in the effort. Ordinarily, however, where the cyst has not previously ruptured, the procedure is a safe one, when due care is observed.

Dr. M. PRICE reported a case of *pyosalpinx with rupture*.

On the 6th of September I was called to Mrs. ——, with symptoms of miscarriage, with pains, hæmorrhage, and slight odor to the discharge. She refused to have an examination, saying she knew she was not pregnant. I left her, with the understanding that when she was ready for me to examine her, to send for me. On September 10 I was again called, and found her in great pain; the discharge of blood and broken-down placenta were of the most offensive character. She stated that she had been perfectly regular up to her last period, which was delayed about one week. She had considerable fever, a temperature of 102°, and had had that morning a severe chill. On examination, the uterus was found about four inches in depth, with part of a rotten placenta adherent to its right posterior wall. The uterus was in good position and perfectly movable, with both tubes enlarged and thickened, and at this time could not have been adherent to any surrounding structures. I removed the placenta with considerable difficulty, used hot-water irrigation with boracic acid in the uterine cavity, which, for a time, gave her great relief. These irrigations were continued, and the uterus washed out twice a day for three days, all this time the tubes continuing to enlarge, until they must have contained several ounces of matter, and could have, at this time, been easily removed. The irrigations into the uterus were discontinued, and those of the vagina were kept up. I became very much alarmed at her condition, and stated to the husband that an operation was needed to save his wife's life. This he refused, and begged that I should do all I could without the operation. I yielded to his request much to my regret, for I felt that nothing but an immediate operation and removal of the tubes — which then would have been possible, as there had been little if any leakage up to that time into the peritoneal cavity — would save her life. I believe that any man treating a case of this kind with the symptoms as positive, and the indications as plain as they

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were in this case for operation, should have retired from the case, for by so doing he clearly indicates that his mind is made up as to the treatment and the only chance to save, and by so doing shows to the medical attendant who may be called to the case the proper line of treatment; and if he does not take the warning, the post-mortem will follow and show who was right. There were several well-marked changes in her condition, indicating rupture or leakage from the tubal abscess, and her condition steadily grew worse until the 20th, when, in consultation with my brother, we persuaded the family and the patient to let me operate, and give her that chance for life, as she was in a very bad septic condition. As the consultation was at a very late hour at night, she was opened early the next morning (21st). I found the internal organs matted together, uterus much enlarged, both tubes enlarged and ruptured, adherent to everything they touched, pelvis full, pus cavities almost up to the kidneys on both sides; everything in a semigangrenous condition; but little bleeding from ruptured adhesions or from wound in opening abdomen, which is never a good indication. A great quantity of pus was evacuated, at least two pints, of the most offensive character. Irrigation and drainage were used. The patient was a very large woman, consequently the longest drainage-tube we could find was used. She rallied from the ether, and for the first six hours there was discharged from the drainage-tube two pints of very offensive serum. It gradually lessened in quantity, but increased in offensive character. A cleaning of the tube was made every half-hour; after cleaning, warm boracic water was injected through the tube. It improved matters only for the moment. Patient died twelve hours after operation. Present at the operation: Drs. Joseph Price, E. W. Cushing, of Boston; Atherton, Toronto; Roseburg, Hamilton, Ontario.

Dr. W. H. PARISH said that his remarks on this subject of pelvic abscess, made at the recent meeting of the American Gynæcological Society, had been misquoted. He had stated there, and wished to repeat here, that these abscesses should be opened very early. If operation was not resorted to the patient would most probably either die or become a confirmed invalid. He was not one of those who believe that pus always originates in one particular point of the pelvis. He did, however, believe that the large majority of cases occur because of pus primarily in the tube. He believed also that an uncertain number occur from pus originally formed in the areolar tissue, beginning probably because of lymphangitis of that particular locality. The question arises as how best to operate in these cases. He held that there could be no absolute rule of procedure. He believed that in the majority of cases it was wiser to make an opening in the median line and explore the peritoneal cavity, unless we are very certain that the abscess is not in the tube or ovary. If we are sure that there is no involvement of the appendages, and that the pus is not intra-peritoneal, the abscess may be opened without going into the cavity. He called attention to a procedure which he had adopted in a few instances, where small abscesses were located in pelvic areolar tissue. In one instance, Dr. Longaher made an incision in the median line. The tubes and ovaries were found free from pus, but, of course, congested. With the fingers within the abdomen he felt in the anterior-pelvic wall an abscess. An incision was made over Poupart's ligament, as for ligature of the external iliac. Then, passing deep into the pelvis, pus was reached some distance be-

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low the brim of the pelvis. In another case there was an indurated mass apparent above the left half of the pelvis, not recognizable through the vagina, except on very deep pressure. An incision was made above Poupart's ligament. After cutting through very dense tissue he came to a minute cavity which contained no pus, but a somewhat serous fluid containing flakes of lymph. These are only two of a considerable number of pelvic abscesses on which he had operated, and he had never regretted operating early.

Dr. J. M. BALDY wished to take this opportunity of emphasizing views which he had expressed before the recent meeting of the American Gynæcological Society. He did not agree with Dr. Parish as to the pathology of this affection. He granted that there was the possibility of an abscess occurring in the pelvis, such as occur in other parts of the body, from the scalp to the foot, but that these must be most rare. The gentleman, connected with what Dr. Parvin had been pleased to call "The Philadelphia Dispensary School of Surgery," had now done over one hundred of these operations, and had not yet in a single case come across one which had not begun primarily in the tubes or ovaries. In every case the diseased mass removed has been tube, ovary, and other tissues involved. [Dr. Parish, at this point, asked wherein his views differed from those of Dr. Baldy.] He had to leave that to be judged from what Dr. Parish had said. In regard to treatment he must again dissent from the views expressed. He thought that an absolute rule *could* be laid down. Where pus was found in the pelvis, early or late, the proper procedure was to open the abdominal cavity and remove the seat of the disease where it was possible; and where it was not possible to remove, proper drainage should be established. However, it would be found comparatively certain that the disease could not be taken out by a bold operator.

Dr. JOSEPH PRICE thought that he understood Dr. Parish. He himself had said repeatedly that we might have an abscess in any part of the body from the scalp to the matrix of the nails. We may have it in the cellular tissue of the pelvis as well as in the axilla or neck; but he must hold to what he had said: that in all the pelvic abscesses that he had seen he had not found one not due primarily to tubal disease. Among the recent papers on the subject, one calls attention to the treatment by drainage through the vagina. He did not see how this will avail much in bilateral accumulations. You may evacuate half of the tube, but you have lost a condition of affairs such as is found in an old bubo. In pelvic abscess we have just the condition of affairs which the surgeon is asked to treat in the groin, axilla, or popliteal space. In such a case he would remove the disease by a clean nucleation, and perfect a cure. He had not seen a case of pelvic abscess which could not be removed in this way; and he should say that such cases did not exist. One gentleman at Washington went so far as to say that after drainage by vagina, in a case of double pyosalpinx, recovery had followed, and the woman had borne children. He might as well have said she had conceived, notwithstanding her husband had previously been castrated.

Dr. M. PRICE remarked that it was a question whether you could say that the tube was diseased or not by simply looking at it. He remembered a case a few weeks ago where the tube was congested and inflamed. It seemed to be simply swollen,

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but on pressure there was forced from the fimbriated end a drop or two of as perfect gonorrhœal pus as could be found anywhere. If he had not seen the discharge he should have thought that there was no disease save congestion.

Dr. B. C. HIRST exhibited the following: 1st. An exencephalic monster, a rare form of monstrosity, sent him by Dr. Baker.

2d. An anencephalic monster, a more common form, given him by Dr. L. S. Clark.

3d. A fœtus papyraceus, interesting in connection with an idea sometimes entertained that this is a proof of super-fœtation. The present specimen was sent by Dr. Cleeman. It was evidently a case of twin pregnancy, one fœtus dying at about the eighth or ninth week had been mashed flat by the other.

He also exhibited a modified form of Braun's modification of Simpson's cranioclast. The modification consists in adding to the instrument a pelvic curve, and also arranging it for axis traction, if so desired. In perforation of the head coming first, it is of advantage to use a dull perforator. Fasten a strong volcella forceps in the scalp, cut the scalp with Emmet's scissors, and then thrust the perforator through the skull. In perforation of the after-coming head he had found in a case seen last summer that it was more convenient to go through the neck and through the pharynx. This simplifies the operation, and in some cases makes it safer for the mother.

Dr. JOSEPH PRICE called attention to two instruments he had devised a few years ago for the same purpose. As we know, there is a large mortality following craniotomy, due principally to mutilations and contusions of the mother's soft parts. Some time ago, while dealing with a number of greatly deformed women, the children being dead (I may say that I have never destroyed but one living child), it occurred to me to have made an instrument through which we could work, one easy of application, a speculum, to protect the maternal soft parts, and for fixation and compression of the head,— an instrument which could be applied in pelves of one and a half inches. I have tried the instrument which I now show in all the deformed pelves at the University. You can crush heads with it, and again it serves as a perfect tractor. This other instrument you will all recognize. I have made the end of the handle of one blade sharp. Over this I place a piece of leather, introduce it, and perforate the skull through the leather. This instrument is also a good tractor in case of after-coming head; it is also a good instrument to use in crushing the bones of the face. These two instruments are all that I have found necessary.

Dr. PARVIN thought that an objection to the method proposed by Dr. Hirst is, that the brain-substance cannot be evacuated as readily by an opening through the neck as by one behind the ear. For instance, he had occasion last week to perforate the head in a head-last delivery, the child being dead. He made an opening behind the ear, and with ordinary forceps the head was compressed, and the evacuation of its contents readily took place. It might be easier in some cases to perforate through the neck, but the removal of the skull contents will be much more difficult and imperfect.

Dr. J. HOFFMAN said that in perforation of the after-coming head it was considered that by drawing on the body the head can be fixed and readily perforated.

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Dr. BERNARD had some years ago found it impossible to perforate the skull posterior to the ear in a case he then had. He was able to draw down the inferior maxillary and perforate through the palate, and within a few minutes deliver a hydrocephalic child. He did not confine himself to any particular portion of the skull for perforation, but operated on the most accessible part. The moment the head is perforated he breaks up the brain with the same instrument without withdrawing it, and then breaks up the skull with Thomas' or Meigs' forceps.

Dr. B. C. HIRST said it would, theoretically, seem that an opening posterior to the ear would be better than one through the neck, but in his case there was no trouble at all about the escape of brain-matter. It would undoubtedly be better to perforate the skull directly, if this can be easily reached, but where this cannot be done perforation of the skull through the neck will be less likely to injure the mother.

Dr. W. J. TAYLOR presented, with the following remarks, *three uterine myomata:* These three tumors were removed to-day from a case of considerable interest. The patient, a woman aged 30 years, was married on the 7th last May. On the 20th she had her last menstruation, and from that time considered herself pregnant. The abdomen began to swell, and she had a good deal of pain. A few days ago she sent for me, and I found her with the abdomen much enlarged and presenting the symptoms of pregnancy. On the right side, however, there was a hard mass which puzzled me very much. She was seen by Drs. W. W. Keen and B. C. Hirst, and the conclusion was reached that an operation was necessary. To-day abdominal section was made. It was found that the uterus contained a fœtus, and that there were three fibroid tumors; the largest was subperitoneal, the smallest was attached by a small pedicle, and the second in size was also subperitoneal. These were removed, and the patient is at present doing well.

Dr. W. W. KEEN said that Dr. Taylor had hardly done himself justice in his modest narration of the steps of the operation and in his reference to the question of diagnosis. When I saw the patient last Monday it was a question whether the large mass on the right side was a uterine myoma or a tubal pregnancy. It had grown rapidly and *pari passu* with the uterus. Two facts in favor of its being a solid tumor were its density and the fact that the pulsation of the aorta could be distinctly heard with the stethoscope at every point over the tumor. Its rapid growth seemed to be opposed to the idea of myoma. Dr. Hirst was of the opinion that it was a tubal pregnancy, at the same time recognizing an intra-uterine fœtus also. She had albuminuria. When Dr. Taylor opened the abdomen two large tumors presented, which coalesced below, but were separated above. Passing the hand into the abdomen the left tube and ovary were found normal. On the right side it was at first not possible to recognize the ovary and tube, but by enlarging the incision the hand was passed well down, and the ovary and tube found. By the side of this tube was a vein considerably larger than my thumb. The pregnant uterus was recognized as the large tumor to the left. It was soft, elastic, and dark in color. That to the right was recognized as a neoplasm. While I lifted with difficulty the upper end of the tumor, Dr. Taylor incised its capsule and enucleated it until he came to the attachment to the uterus, which was over a space of three or four inches in diameter, when the weight of the tumor then caused the uterine

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tissues to tear, and the large sinuses began to bleed very freely. I next grasped the pedicle with the thumbs and forefingers of both hands while he stripped off the sac. The tumor was then quickly removed, and the uterine tissue and the wall of the sac were seized with large hæmostatics and the hæmorrhage controlled. It was necessary at several points to introduce sutures into the uterine wall itself to control the bleeding. The redundant portion of the sac of the tumor was cut away and the edges brought together with the continuous catgut suture. A drainage-tube was passed down into its cavity. In at least two places, and possibly four, there were, upon the uterine wall, small masses about half the size of my little finger-nail. These looked like beginning malignant tumors. From the appearance and the rapidity of the growth I think that this may be a sarcomatous tumor, though it is possibly a simple myoma.

Dr. PARVIN thought that there was one point that even Dr. Keen had omitted. He saw the operation, and the great mass of the tumor was included between the layers of the right broad ligament, so that the first incision was through the anterior layer of the ligament. Formerly, in removing a subperitoneal fibroid from the posterior surface of the uterus, the pedicle partially tore while the ligature was being applied, and there was free hæmorrhage. He finally succeeded in stopping the bleeding by the use of the continuous catgut suture after other measures had failed.

Dr. HIRST said that Dr. Keen had correctly expressed his views. The symptoms pointed strongly to extra-uterine pregnancy. If the case had been allowed to go on to term, Cæsarean section would have been required, as the tumor filled up the pelvis. He had looked up this subject of injuries to the pregnant uterus, and had found some interesting cases. In one case, the woman was thrown to the ground and jumped upon when six months pregnant. The fœtus was killed, but she went on to term. In another case, trachelorrhaphy was performed during the second month of pregnancy. This case went on to term. In another instance a number of leeches were applied to the cervix of a pregnant uterus without any interruption to pregnancy. In a case I had last spring the woman was squeezed between a bale of goods and the wall, and was seriously injured, but she went on to term. A German operator has such confidence in his ability to plunge a trocar into the uterus without doing harm that he advocates the occasional withdrawal by aspiration of the liquid in hydramnios, with very great distention of the uterus, allowing the child to go on to term.

Dr. PARISH said that the removal of ovarian tumors during pregnancy was recognized as a proper operation, but that the removal of uterine subperitoneal fibroid tumors during pregnancy was not regarded as a proper operation, except under certain special circumstances. The injuries necessarily inflicted on the uterus in their removal are liable to induce abortion. It would be interesting to have the further history of this case. The microscope alone could determine the character of this growth. Under ordinary circumstances the rapidity of the growth would point to sarcoma, but it is well known that in pregnancy fibroid tumors occasionally take on a rapid growth. He supposed that Dr. Hirst did not refer to the cases he had cited as indicating rules of practice. It must be the urgency of the

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condition which justifies operations on the pregnant uterus. While pregnancy may go on after injuries to the uterus, there are numerous unreported cases where the opposite has been the result. Where a subperitoneal tumor can be lifted from the pelvis, pregnancy may go on.

Dr. J. PRICE thought that obstetrically the case was one of great importance. Some time ago he had called attention to three parallel cases. They all went to term with a pelvic tumor, and died undelivered. The question of differential diagnosis scarcely concerns many operators at present; all that was required was the knowledge that there was a tumor present. We should never wait until the patient's general health has been impaired, as this is a departure from that generally followed in general surgery.

Dr. HOFFMAN had been recently consulted by a woman who stated that she was pregnant, and that at previous labors the baby "had to be mashed up." The pelvic cavity was found to be filled with a tumor, and she was advised to undergo an operation for its removal. This she refused. It seemed to him that there could be no doubt of the propriety of immediate operation in cases like the one before him.

Dr. B. F. BAER believed that, in this case, after the exploratory incision had been made, and it was found that no extra-uterine pregnancy existed, it would have been better to have closed the incision than to have removed this deeply located solid tumor; but since the removal was determined upon he thought it would have been better to have amputated the uterus at the neck than to have permitted it to remain with a great wound in its side and in the broad ligament. It is not likely that after such a serious operation the pregnancy will go on to term anyway, and abortion occurring within a short time after the operation, will certainly add to the risks of the patient. He asked if there were any subjective signs of pregnancy (extra-uterine) in this case, such as the peculiar pains, uterine hæmorrhage, or discharge of decidua.

Dr. KEEN thought that the removal of the uterus would have been a wholly unjustifiable procedure. It was possible that the woman might miscarry; but it was also possible that she would go to term. It has been shown that pregnancy is not necessarily a bar to operation. Not only would the sacrifice of the fœtus have been unjustifiable, but hysterectomy would have made a young married woman sterile. The added dangers of a hysterecomy, too, might have turned the scale against the patient.

Dr. M. PRICE asked if Dr. Baer would expect to have uterine hæmorrhage in a case of extra-uterine pregnancy where there was also a fœtus in the uterine cavity.

Dr. B. F. BAER said that he would expect in such a condition that, as the result of the extra-uterine irritation, abortion would take place, and then we would have both hæmorrhage and decidua. In regard to the removal of the uterus in this case, it seemed that Dr. Keen condemned the procedure because of his anxiety to save the child. He, however, believed that the child would have had a better chance for its life if nothing had been done. But if operative measures were imperative, then he still held to his former opinion. In answer to still further questioning from Dr. M. Price, he said that he believed that hæmorrhage may occur and the extra-uterine sac remain ruptured. He had seen a case which supported that view. The

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patient, after having her menses for two months, was one day seized with severe pain in the right iliac region, which was followed by shock. She fell in her yard, and when her physician arrived he found a condition of shock, as well as hæmorrhage. A few weeks after she had a similar attack. He was then sent for, and the diagnosis of extra-uterine pregnancy arrived at. This was five years ago, and Thomas' method of operating by the vagina, and opening the sac with a hot knife, was followed. The sac was found with no evidence of rupture in it. The liquor amnii was clear, and no evidence of hæmorrhage into the cyst, which there would have been had a rupture taken place. The fœtus was indeed alive. The patient died on the fifth day after operation.

Dr. WM. J. TAYLOR closed the discussion by saying that, in this case, the tumor was absolutely fixed. The woman's general condition was poor; the pulse 120; the patient unable to eat; she suffered intense pain, and diarrhœa for a number of days previously; the tumor was also growing rapidly. The urgency of the case seemed to call for some relief. There was albuminuria. If the matter had been allowed to go on to term, — provided the woman had lived that long, — the risks to both mother and child would have been greater than they were at the present time.

J. M. BALDY,
Secretary.

ISCHIO PAGUS DIPYGUS[1] (Figs. 39–43).— [ACTON.—*Medico-Chirurg. Trans., London, 1846, vol. xxix. p. 102, pl. iv. figs. 1, 2. The Lancet (London), vol. ii. p. 124, figs. 1–4, 1865 (Am. ed., Jan., 1866, p. 71).*

"THE subject of the present monstrosity is a male child, named John Baptist Dos Santos, of Portugal, six months old. The father and mother are both healthy, of short stature and dark complexion; no peculiarity of any kind has been observed in their family. The mother has had two well-formed children. She remarked nothing unusual during her pregnancy; the child was born at full term, and the labor was an easy one.

"The child is exhibited lying on its back in a little cot; is lively and good-looking, and well-proportioned, both in the upper and lower extremities, the peculiarities being confined to the parts below the umbilicus. A truss is worn on account of an umbilical rupture. Below the umbilicus, and to the right and left of the mesial line, are two distinct penes, each as large as the penis of a child six months old; their direction is normal. Water passes from both organs at the same moment. Each penis is provided with a scrotum, the outer half of each scrotum containing one testicle; the inner half of the scrotum is far removed from the outer, and the two inner halves appear like another scrotum between the two penes.

[1] Transactions of N.Y. State Med. Soc., 1866, p. 256. Case 41.

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"Between and behind the legs of the child we see another limb, or, rather, two lower extremities uniting together in their whole length. The upper part of this compound limb is attached to the rami of the pubes by a short, narrow stem, half an inch in length, and as large as the little finger, apparently consisting of separate bones or cartilage, for, upon moving the compound limb at the same moment that the finger is kept on the stem, crepitation is felt, but I could not detect any pulsation. Immediately behind this stem and concealing it, the compound limb assumes a size as large as the combined natural thighs of the child, and within the upper part irregular portions of bone may be felt (probably a portion of a pelvis and the heads of the thigh-bones), which may be traced down, united together in one mass to a leg of comparatively small size, though still larger than either of the healthy legs, and terminated by a double foot in the position of talipes, with the sole turned forward, and furnished with ten toes, the two great toes being in the centre of the others; the two outer toes on each side are webbed. (See Figs. 39 and 40.)

"When the child is placed on the belly, the spine and back present a perfectly normal appearance; the anus is in its usual situation; the functions of the bowels are duly performed. Viewed in this position the compound assumes a roundness and fulness equal to the buttocks of a young child, and a slight depression is observed, as if for the anus. Tracing the limb downwards, we find only one patella, which is on the same aspect of the limb as the anus; the joint bends freely and the compound extremity terminates as above described. This compound limb is quite motionless; the upper portion above appears endowed with sensibility; its vitality seems low, as the toes have a bluish appearance; the upper portion, however, is of the same temperature as the body of the child."

A further description of this monstrosity is given in "The Lancet" (London, vol. ii. p. 124, Aug., 1865), when this subject was 19 years old. It coincides very closely with the above. Speaking of the extra leg it says: "He remembers to have been told that when he was a year old the third limb projected more stiffly than it does now, and a Portuguese chemist, officiating as surgeon, broke the limb at some part so as to make it less cumbrous. He believes that it was at the junction of the lower leg with the thigh that this was effected, and that the leg was then bent upward and forward in the position in which it now is. Examination renders this probable, since it is certainly dislocated into an unnatural position, and has only a false joint. But it is possible that at this time the neck of the thigh-bone was broken away from the body, and that the upper bone is that neck, remaining attached to the arch of the pubes by a ball-and-socket joint. . . . He is very active, and runs very

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swiftly, and is a good horseman. He usually disposes of his third limb by strapping it with webbing to the side and front of his right thigh. As he walks, when dressed, no external deformity is observable."

His virile powers are unusually good, and he uses the left penis in sexual intercourse, sometimes finishing with the right.

SCHUECKING. — THE LIGATION OF THE UTERUS PER VAGINAM, AND ITS EMPLOYMENT IN RETROFLEXION AND PROLAPUS OF THE UTERUS. — *Centr. f. Gyn., Oct. 20, 1888.*

In thinking over the possible methods for bringing the retroflexed or prolapsed uterus permanently to a normal position by a method which should be devoid of danger, and at the same time efficient, two ways occurred to the author. It was possible to pass a ligature through the uterine cavity, then through the fundus, and out through the abdominal wall; but this could not be said to be without danger, for it involved possible injury to the intestines, with possible infection also. The other way consisted in attaching the fundus uteri anteriorly and laterally to the vaginal wall by sutures, and securing the peritoneal covering of the uterus to the lowest part of the vesico-uterine fold. This plan also involved the bringing of the uterus into decided anteflexion, which is a matter of the greatest importance. It is distinct from the methods which fix the uterus at the abdominal wall, and which affect only an anteversion and ante-position of the previously retroflexed organ, which also are more favorable to a recurrent retroflexion than is the case if anteflexion has been obtained. There were also some considerations which must be paid to the matter of passing a ligature from the fundus uteri to the anterior and lateral portion of the vagina, among them the propriety of perforating the uterus with a needle, even if it were thoroughly disinfected. This objection was partially answered by the fact that the uterus had frequently been punctured by unclean instruments, the vagina also not having been previously disinfected, without any bad results. Another consideration concerned the protection of the bladder when the ligatures were passed. This could be effected by pushing that organ aside with a sound when the sutures were passed, and even if it were punctured, it was thought that a fine opening would close at once and do no harm, as in three of the author's cases in which that accident occurred. Injury to the intestines could be avoided, for the sutures were made to pass directly across the space which had been occupied by the bladder. A peculiar instrument was required and constructed in order to take the course neces-

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sary for accomplishing the end in view. Previous to an operation the vagina was tamponned for several hours with cotton dipped in a three-per-cent. solution of carbolic acid, and the uterine canal was disinfected with tincture of iodine, carbolic acid, or chloride of zinc. The author has practised his method twelve times for retroflexion and three times for prolapse. In only four of the retroflexion cases was an anæsthetic required. The sutures were removed in from six to fourteen days in the retroflexion cases, but not for three weeks in the prolapse cases, and it was believed that the peritonæum covering the uterus was adherent to the fold with which it was brought in apposition, from the fundus to the os internum. The result of this operation was a success in all cases except the first — a case of retroflexion, in which the sutures were removed too early — on the sixth day. In addition to the relief of the displacement, whether retroflexion or prolapse, the unpleasant symptoms supposed to be dependent upon them were also relieved; viz., dragging in the pelvis, pain in the head and sacrum, dysmenorrhœa and menorrhagia. After the removal of the sutures the sharp anteflexion gave place to a normal position, and in no case did the bad symptoms credited to anteflexion follow the operation.

A. F. C.

ÉCOUVILLONNAGE FOR RETAINED PLACENTA AND POST-PARTUM SEPTICÆMIA.

THE comparatively new method of treating cases of retained placenta, and post-partum septicæmia arising from the same, bids fair to find an important place in obstetrics. At a meeting of the Society of Medicine of Salonica, as reported in the "Nouvelles Archives d'Obstétrique et de Gynécologie," Misrachi gives an interesting account of thirty-eight cases treated by the use of the *écouvillon*, or ramrod-mop of Doléris. He says: "Since the sixteen cases that I published last year, I have performed twenty-two *écouvillonnages* for the retention of the after-birth, or for post-partum or post-abortum septic endometritis. I will say nothing of eleven cases of chronic endometritis, which are too recent to affirm that they are cured.

"Of these thirty-eight cases, thirty-seven were immediately cured; twenty-two women have become pregnant; of these twenty-two, ten have already been delivered, and nine are actually pregnant. Two have had an ordinary miscarriage, and a third a miscarriage that necessitated a new *écouvillonnage*, and is to-day pregnant for the third time. I have always seen the hæmorrhage stop after the operation; and some of my patients who have formerly had dysmenorrhœa have experienced a painless and

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more regular return of menstruation. I have interfered seven times for septicæmia, more or less advanced. In six cases I have seen threatening symptoms, both local and general, vanish in the space of twenty-four to sixty hours. One case terminated in death, and a word of explanation is necessary. She was a woman who, affected with commencing tuberculosis and having had three successive miscarriages, was reduced to a deplorable state. In this condition she aborted for the fourth time, with twins at the fourth month, with a terrible hæmorrhage.

"The placenta remained in the uterus; traction was made upon the cord, and it broke. The flow ceased, and she was given quinine." The next morning it was apparent that some complication was present, and three physicians were called in consultation, who advised merely waiting, and employing the usual antiseptic precautions. On the fourth day the temperature was still high, and M. was suddenly called to the patient, to find her pale, cold, pulseless, with intense abdominal pain, abdomen swollen and tender, vomiting, etc.

The placenta was easily removed, and the *écouvillon* employed. Injections of caffein and ether were given, but to no purpose, as she sank and died three hours afterwards.

If the case had been undertaken earlier, as Misrachi wished, in all probability her life would have been saved. He believes that the *écouvillon* is never a dangerous instrument if it is carefully handled, under thorough antisepsis; that it is less dangerous than intra-uterine injections, and more efficacious.

According to general experience and testimony there is no necessity of anæsthesia. The hæmorrhage always ceases, and the temperature usually falls. Whatever we may predict for the future of *écouvillonnage*, it is certain that the time is not far distant when the physician who fills his patients with whiskey and quinine, and leaves portions of decomposing retained placenta behind, will be justly condemned, not only by the profession, but also by the intelligent laymen.

H. P. N.

HOSPITAL REPORT.

MURDOCK FREE SURGICAL HOSPITAL FOR WOMEN — DOUBLE VAGINA AND UTERUS.

In the illustration of this case (see Plate II.) the external genitals are shown, with the labia separated so as to view the hymen and introitus vaginæ. The labia are perfectly normal, and the parts, until closely observed, seem to be in a perfectly natural condition. If exposed to view two

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openings will be seen, and a perfect hymen corresponding to each. A septum is between these two passages.

The figure will show instruments entering either opening, which are so placed as to show well the abnormal development.

The patient is 29 years of age and unmarried. Menses at 15; periods regular, and duration of flow five or six days. There was pain during the first day of the flow, not sufficient to call for operative interference. Some vaginal discharge was present and pain in the lower abdomen.

She entered the hospital Jan. 6, 1888.

By vaginal examination it was found that the finger passed as is usual, except that it fitted more snugly. The vagina was about the usual depth, but was much narrowed, and at the end was felt a small cervix and os uteri, but no cul-de-sac. The sense of touch revealed nothing abnormal except the small size; but on inspection of the parts the double condition was noted, and the passage of the finger gave evidence of two sides, which were exactly identical.

Only a little could be told about the uterus from vaginal examination. A sound could be passed into the uterus on either side, and seemed to pass off toward either side of the body. Through the rectum the true condition could be made out. The uterus was not developed, the two parts being joined up to the point of the internal os, then separating and passing off Y shaped to right and left.

The patient was contemplating marriage, and, knowing that she was not perfectly natural, she desired an operation if she could be better fitted for such a position in life.

The operation was performed after she was thoroughly informed as to the disastrous outcome provided she should become impregnated in either horn.

The information that most women with this malformation were able to have intercourse without operation did not satisfy patient that her condition did not require surgical help.

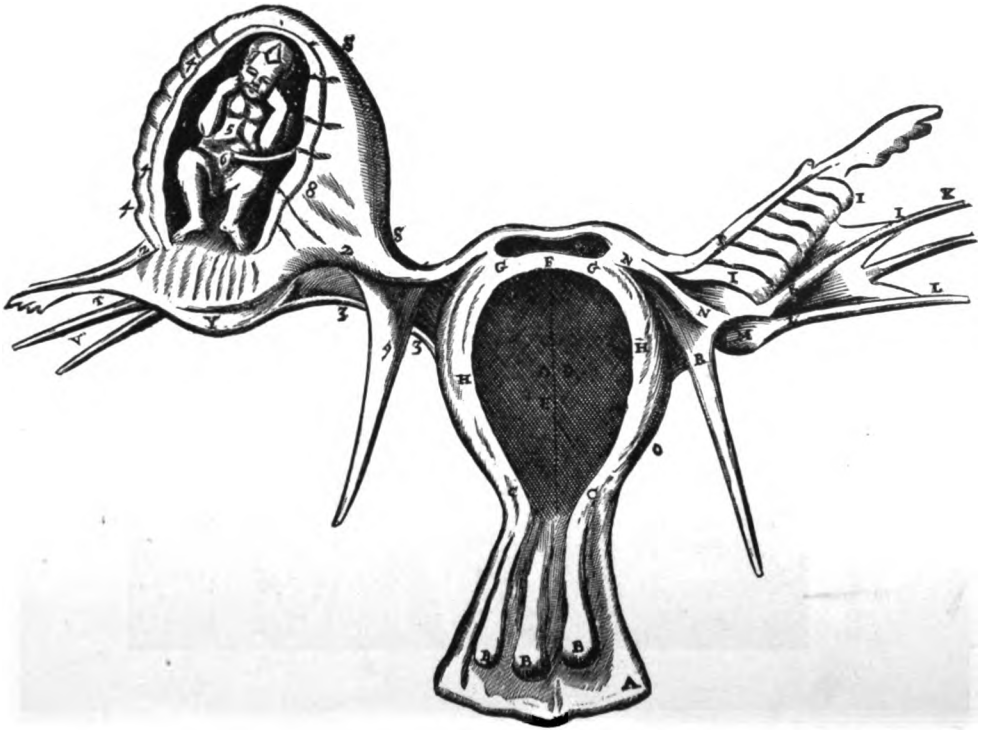
Of course the question as to the advisability of marriage should be taken into account. The patient was advised concerning it. The intended husband ought to have the same information. The operation was performed by cutting through the septum through its whole length, and the two edges of mucous membrane were sutured with gut both above and below, thus transforming the two passages into one. The septum was about one-tenth inch in thickness externally, but grew considerably thicker as it reached the cervix. This made it quite difficult to suture the upper portion, as it was deep in, and there was very little space. There was perfect healing, and the patient left the hospital in twelve days very much improved.

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THE COMPARATIVE THERAPEUTICS OF UTERINE MYOMATA. — VILLA. — *Nouv. Arch. d'Obst. et de Gyn., Jan. 1888.*

THE treatment by curetting in those cases in which there is hæmorrhage, and in which the hæmorrhage proceeds from the diseased mucous membrane, cannot be expected to have more than a temporary significance. Especially is this the case if the tumor is developed toward the mucous membrane of the uterine canal, the mechanical conditions being such that frequent recurrences of hæmorrhage are favored. The treatment by intra-uterine injections is based upon the idea or the suspicion of a chronic inflammatory condition of the mucous membrane, to which the hæmorrhage or the decomposition of the secretions is attributed. It is believed that this is not a very efficient method of treatment, and it must also be remembered that with it are associated certain elements of danger. Treatment by means of dilating tents and medicated tampons, after the method of Vulliet, is considered a feeble palliative means, and one which is not likely to produce any permanent benefit. Treatment by electricity has recently excited great enthusiasm, but it is not likely to result in the radical cure of the neoplasms to which it is directed. The various methods of treatment by the galvanic, the faradic, and the mixed currents are reviewed in detail; and, as to results, it is found that by some operators a diminution or a suppression of hæmorrhage, a relief from pain, and a diminution in the volume of the growths have been obtained; by others the tumors have been caused to disappear in some cases, to diminish in size in others, and the hæmorrhage to cease; while others have obtained no satisfactory result. The only positive effect which the author has seen has been, in almost all cases, a very favorable stimulating effect to the general nutrition, and a recuperation of the strength. The method of Doléris has been followed by the author,—a galvanic current to the extent of 250 milliampères being used. In some cases the action upon the uterine muscle has been such that it favored the subsequent removal of interstitial tumors of moderate size, but the large tumors were not so favorably influenced. In all varieties of uterine myomata it is believed that electrotherapy is only an unreliable palliative method, and many patients who have been submitted to it have eventually required the radical operation. Not a few accidents have accompanied this method of treatment. Septicæmia is almost inevitable after a large number of punctures have been made, in consequence of necrotic tissue which must result in the womb, or in the centre of the tumor. There have also been cases in which the rectum and the bladder have been perforated with consequent fistulæ, the abdominal cavity has been entered, and pyo-salpira and peritonitis have followed. The treatment by ergot is still practised to a certain extent, but this is considered a method of doubtful efficiency. When pediculation occurs during its use, it must not, of necessity, be assumed that it is due to the ergot. In short, the author leads one to infer that no ideal method of treatment has yet been proposed.

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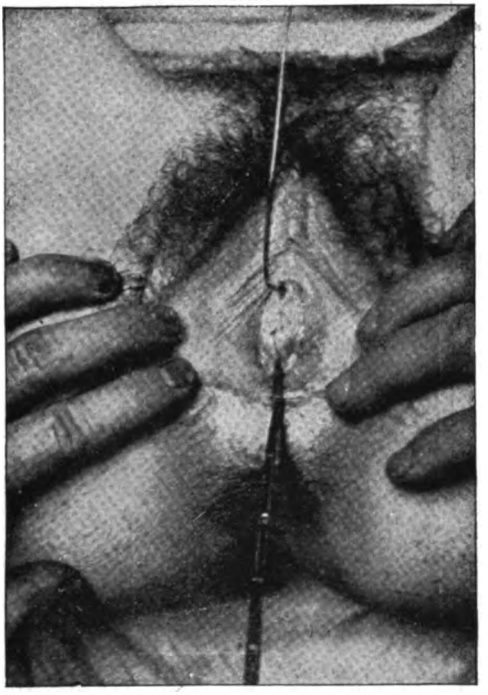


TUBAL PREGNANCY.

Figured by Vassalius, at Paris, A.D. 1669, from woman æt. 32, who had had eleven living children; died of rupture of sac between third and fourth month, with symptoms of hæmorrhage and convulsions. Abdomen found full of blood. Explained by Vassalius as two uteri. Copied and correct explanation suggested by Oldenburg, from whom De Graaf copies this figure, with correct explanation. **Q, Q.** — Some blood-vessel opened longitudinally. **N, N.** — Ligaments of the ovaries (supposed by V. to be ejaculatory vessels. **S, S.** — Fallopian tube or oviduct at the side (adstatus), in the cavity of which the fœtus was found. **2** — Lower part of the tube. **6** — Fœtus found in the tube of the uterus.

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CONGENITAL ATRESIA OF VAGINA.

(See page 158.)

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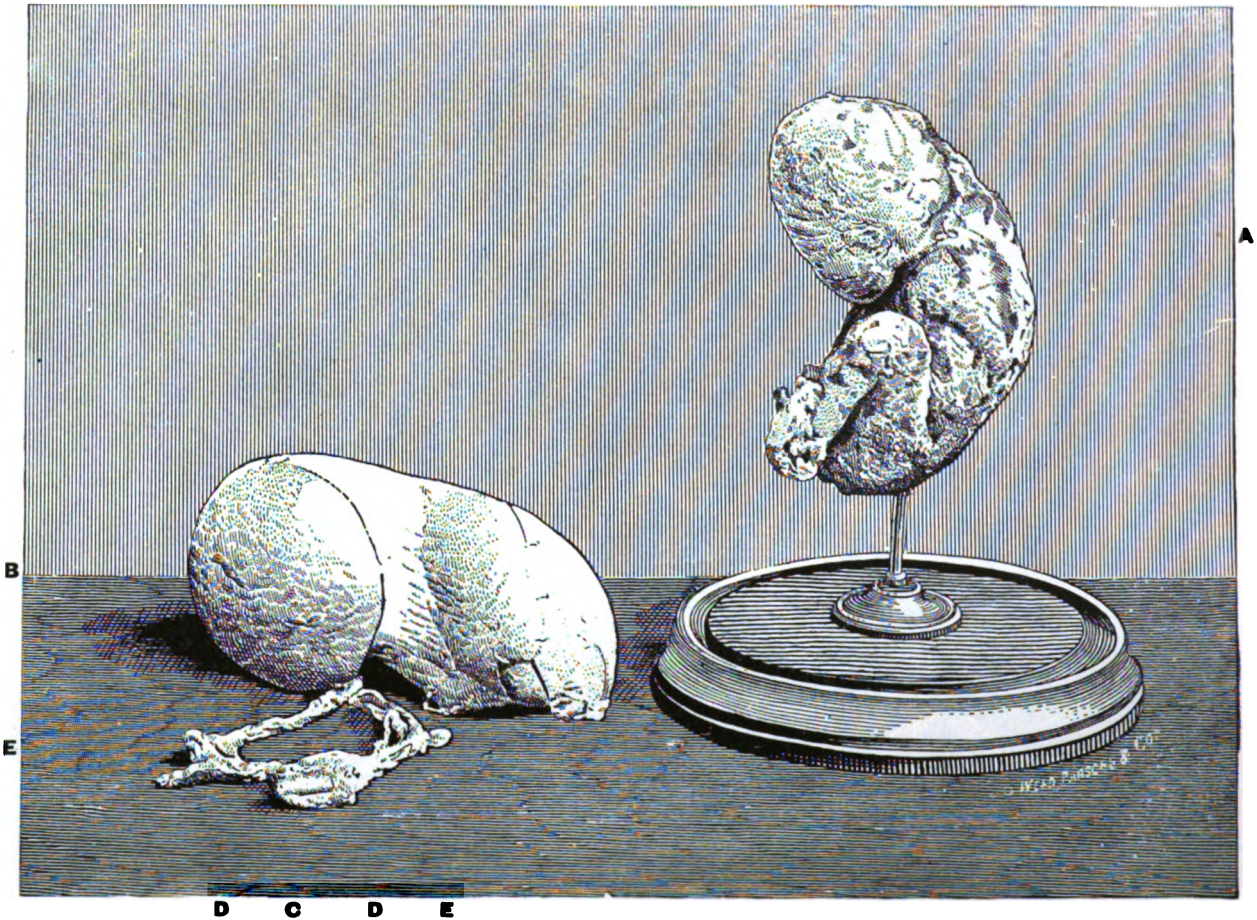


Plate III.—To the right is to be noticed (**A**) Lithopaedion, transfixed upon brass rod, coming from round wooden stand; side view. To the left (**B**) is seen the sac, made up entirely of inflammatory lymph, which contained lithopaedion, while in the foreground lie (**C**) the atrophied uterus, with (**D**) Fallopian tubes, and (**E**) ovaries, intact, connecting with sac by old inflammatory adhesions. The tubes show no point of rupture anywhere.

[Annals of Gynæcology, Boston, December, 1888.]

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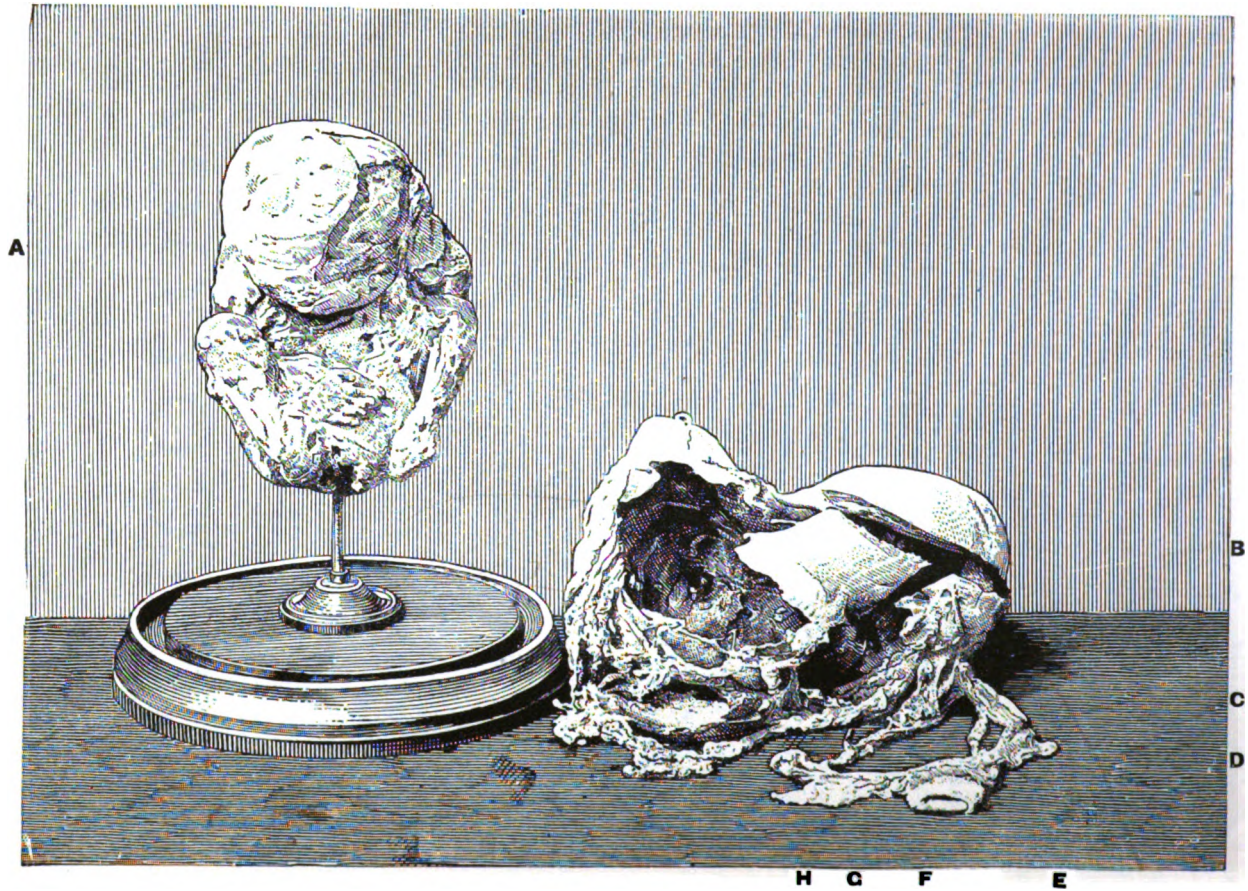


Plate IV.— To the left (**A**), front view of Lithopaedion is shown. To the right (**B**), view of interior of inflammatory sac, showing vastly thickened walls of lymph, while in the foreground are to be seen (**F**) the uterus (**E, G**) tubes and (**D, H**) ovaries, connected as described in Plate I. See Report of cases with text, p. 117.

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ORIGINAL COMMUNICATIONS.

PATHOLOGY OF EXTRA-UTERINE PREGNANCY.

BY FRANKLIN TOWNSEND, M.D.,[1] PROF. PHYSIOLOGY, ALBANY MEDICAL COLLEGE.

MR. PRESIDENT AND FELLOWS: — In beginning the discussion upon so important a subject as that of Extra-Uterine Pregnancy, I am not unmindful of the necessarily limited time each one has at his disposal, and, therefore, have attempted to condense, so far as possible, that portion of the subject, its pathology, which I have been honored with to discuss. Indeed, much of interest has been already published, both of a theoretical as well as of a practical nature; but it is to be regretted that, in all this wealth of literature, reference to results from broad studies in comparative anatomy is but scanty.

What a field would this topic place at the disposal of him who might care to unravel these hidden mysteries, in seeking out the analogy between man and the lower animals!

In tracing out pathological conditions we should of necessity refer to histology and physiology, for, without these scientific aids to our study, we lose sight of the finer shades of beginning morbid processes from absolutely normal ones.

From deductions like these, then, we should begin our study of the pathology of ectopic gestation, by comprehending the physiological functions of the organs most intimately involved. We should know,

[1] Read before the American Association of Obstetricians and Gynæcologists at the annual meeting held in Washington, D.C., Sept. 18, 19, 20, 1888.

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therefore, primarily, the functions of the Fallopian tubes and ovaries; and, lastly, we are to deduce from such knowledge the physiological processes by which the ovum becomes fecundated, as well as the site of its fecundation. The pathological processes following may then, I think, be more distinctly and definitely traced.

Functions of Tubes.

Most authorities are agreed that the functions of the tubes are, first, to transmit the ovum from the ovary to the uterus; and, second, to permit of the passage of the spermatozoa from the uterus in the direction of the ovary. There are a few, and the best of authorities too, who differ from this view, as will be presently shown.

Physiology of Impregnation of the Ovum.

The seat of contact between ovum and spermatozoon has not as yet been determined with absolute certainty, "but in all probability it occurs generally in the ovary itself, or in the vicinity of the Fallopian tubes, seeing that in mammalia after intercourse has taken place the surface of the ovaries is generally covered with spermatozoids." (Bischoff.)

Hermann ascribes to the peculiar movements of the tubes (peristaltic) in the direction of the ovaries, as have been observed to occur in the lower animals, the passage of the spermatozoa through the tubes to the ovaries. (Human Physiology, Hermann, 1878.)

"The spermatozoa find their way into the Fallopian tubes, and here (probably in its upper part) come in contact with the ovaries. In the case of some animals impregnation may take place at the ovary itself." This author accounts for the passage of the spermatozoa toward the ovary by, first, their inherent vibratile activity, and, second, by a retrograde peristaltic movement travelling from the uterus along the Fallopian tubes, as has been observed in some animals. (Text-Book of Physiology, M. Foster, 1885.)

Impregnation of the ovum normally takes place in the tubes, as he considers Dr. Allen Thomson has clearly shown. (Anatomy, Gray, 1883.)

The place where fertilization of the ovum occurs is either the ovary or Fallopian tube. Thus the spermatozoa must be able to pass through the tubes to the ovaries, and which is probably brought about chiefly by the movements proper to the spermatozoa themselves. "When once the ovum has passed unfertilized into the uterus, it is not fertilized in the

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uterus." (A Text-Book of Human Physiology, Landois & Sterling, 1886.)

"The usual place for the ovum to meet the spermatozoa, and to be impregnated, is the Fallopian tubes," etc. (Yeo's Manual of Physiology, 1888.)

In Prof. John C. Dalton's latest edition on "Human Physiology," the following statements are found: —

"The egg, when discharged from the ovary, enters the fimbriated extremity of the Fallopian tube and commences its passage toward the uterus." Dalton regards the mechanism as due to the movement of the cilia of the epithelium lining to the tube "producing a kind of vortex." He recognizes, also, that the ovum becomes impregnated in the tube. (Dalton's Human Physiology, 1882.)

Austin Flint says: "It is probable that the ovum is fecundated, either as it enters the Fallopian tube or in the dilated portion near the ovary." (Flint's Physiology of Man, 1875.)

"That the spermatozoa make their way toward the ovarium and fecundate the ovum, either before it entirely quits the ovisac or very shortly afterwards, appears to be the general rule in regard to the mammalia, and the question naturally arises, by what means do they arrive there?" This author's view in regard to this last question is, that it is due to the inherent power of movement in the spermatozoa. (Principles of Human Physiology, Wm. B. Carpenter, 1853.)

Fecundation "usually takes place in the Fallopian tube just outside of the womb." (A Compend of Human Physiology, by Albert P. Brubaker, M.D., 1883.)

In all instances, the spermatozoa make their way, by virtue of their "vibratile movements," through the whole length of the uterus and "Fallopian tube to the ovary." "It is probable, however, that impregnation generally takes place in the upper part of the Fallopian tube," etc. (Human Physiology, Henry Power, 1884.)

Chapman says, that fertilization of the ovum must occur in the Fallopian tube. He speaks of the changes "by which the egg is transformed into the blastodermic vesicle as appearing during the passage of the egg through the tube." (Treatise on Human Physiology, Henry C. Chapman, 1887.)

It is generally supposed that *it* (the ovum) becomes impregnated by the "sperm cells before it reaches the uterine cavity. *Where* this takes place exactly cannot for *certainty* be determined; it probably varies, and is possible at any point, as the teachings of extra-uterine pregnancy or gestation show." (A Manual of Midwifery, Alfred Medows, 1876.)

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Cazeaux, in his "Theory and Practice of Obstetrics" (Cazeaux & Tarnier, 1886), puts the question as to this point, where the ovum meets the spermatozoon, and says: "Already had the preëxistence of the ovule in the ovary, the occasional occurrence of ovarian and abdominal pregnancies, and the experiments of Nuck and Haighton, which had rendered fecundation impossible by ligating the Fallopian tubes, tended toward the conclusion that it occurred in the ovary. Still this fact was not actually demonstrated, and it needed the definite proof of finding the spermatozoa on the ovary itself."

"At present there *cannot be a further doubt on this point*, for Bischoff has been fortunate enough to *see them there*," etc. Since that period Wagner and Barry have made similar observations. "Now, such results evidently prove that fecundation sometimes take place in the ovary; but may it not take place also in the tubes, or even in the uterine cavity?"

"After coitus the spermatozoa make their way through the Fallopian tubes to the pelvic cavity. It is possible, therefore, for the ovum to become fecundated in any portion of the route from the ovary to the uterus." In exceptional cases it may, after being impregnated, develop after being arrested in its course of travel, entirely extra-uterine. Such terms as "abdominal pregnancy," "ovarian," and "tubal gestation" simply express the *site* of attachment of the developing ovum, which naturally is ectopic. (Lusk's Science and Art of Midwifery, 1882.)

Of this Leishman says: "The ovum is, as has been shown, developed within the ovary in the Graafian vesicle, and what has been observed in the lower animals leads us to conclude that, while yet it occupies that situation, and even before the rupture of the vesicle has occurred, impregnation may occur." On rupturing of the vesicle the fecundated ovum passes into the infundibulum of the Fallopian tube, thence by the tube into the uterine cavity, where its further development continues or progresses to maturity. (Leishman's System of Midwifery, 1873.)

As additional evidence that the spermatozoon reaches even so far as the ovary itself, and fertilizes the ovum, I may only quote from Parry's great work on extra-uterine pregnancy. Parry does not regard it difficult to conceive that the Graafian follicle might rupture and the ovum yet remain; this act, at the same time, allows of a better opportunity for the spermatozoa to fecundate the egg in its very shell. "When we remember the processes by which the ovum escapes from the Fallopian tube, it may occasion no surprise that it should be sometimes retained, even after rupture of the vesicle of De Graaf has occurred."

The following is the course of the fertilized ovum in its passage

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through the uterus: First, Graafian follicle; second, fimbriated end of tube; third, canal of F. tube; fourth, interstitial (tube within uterus wall) portion of F. tube, or horn of uterus. It may be arrested at any point in this course, and continue its development (fœtal) just as it does in the uterine cavity. (Hart & Barbour, Manual of Gynecology, Wood's Library, 1883.)

Barnes ascribes two functions to the Fallopian tube. First, to carry on liquids and the ovum, by the movements of the cilia covering the epithelial cells of the mucous membrane, to the cavity of the uterus. Second, to receive and transmit toward the ovary the spermatozoa of the male. The uterus is regarded by this author as being a thick, hollow, muscular organ, "destined to receive the fecundated ovum," etc.

Coste's observations seem to prove that fecundation is almost always affected, either upon the ovary, or in the part of the tube nearest the fimbriated extremity; inasmuch as he maintains that the ovule spoils very quickly when it enters the tube without previous fecundation. His views regarding the course of the spermatozoa reaching the ovum are, first, owing to the movements of the uterus and tube following the direction from the vagina toward the ovary, and, second, to the inherent power of the spermatozoa themselves.

"The statement that impregnation takes place before the ovum has reached the true uterus seems to me to be an assumption based upon insufficient evidence; indeed, upon no evidence at all. *À priori*, we may safely say, that if it is the rule Fallopian pregnancies and the disasters which follow them ought to be much more common than they are, and I believe it to be more than likely that the real cause of this accident is the coincidence of a set of circumstances, the most important of which is the destruction or insufficiency of the ciliary movement." (Diseases of Women, Tait, Wood's Library, 1879.)

That the uterus is the "meeting-place of the ovum and spermatozoa" is a theory held by Doctor Wyder, and is certainly opposed to the views as just quoted by the most eminent of German, English, and American physiologists, gynecologists, and obstetricians. Wyder regards the appearance of the cilia on the uterine mucosa at puberty, and their action from without inward, as indicating that they are intended to assist the progress of the spermatozoa, while they prevent the too rapid descent of the ovum toward the cervix. The cilia covering the mucous membrane of tubes, which are present from birth, move in a direction directly opposite; and this movement, taken in conjunction with the peristaltic motion of the tubes themselves, also in the direction of the uterus, as well as the sinuosity of their passages, all tend seriously to retard the advance-

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ment of the spermatozoa, notwithstanding their inherent power of motion. (Phila. Med. News, Vol. 49, 1886.)

Regarding the function of the tubes and ovaries, Mr. Tait has proven conclusively to my mind that ovulation can and does take place before, during, and even after menstruation ceases (menopause); also, that the changes in the ovary at puberty are simply vascular, and that those in the tubes at this period are vascular, muscular, and epithelial, and that the change of *greatest* importance is in the functional movement of these accessory organs, that is, the "grasping," so to speak, of the ovary by the fimbriated extremity of the tube *at only stated times*, viz., *during the menstrual epoch*. Ovulation, then, and menstruation are not necessarily coincident, for, as Tait, Jackson, and myself have shown, it is not always that the passage of an ovum takes place through the tube, though its fimbriated extremity is grasping the ovary, for frequently it happens at such time that there is no ripe ovisac present.

If, then, as has been shown, ovulation continues intermenstrually, when the tubes are quiescent, the question naturally arises, what becomes of the ovum when the ovisac ruptures? There is only one place it can go, and that is, into the peritoneal cavity, where it perishes and is absorbed. Mr. Tait, in speaking on this subject in his work on "Diseases of the Ovaries," says, "I believe that the ovum falls into and perishes in the peritoneal cavity in by far the greater number of cases, and that the passage of it into the uterus occurs only in a small minority of the ova produced."

Accepting, then, the views of the majority of the authorities, that fecundation usually takes place either in the tubes or on the surface of the ovary, or even in the Graaffian follicle, or possibly, as has been intimated by Parry, in the peritoneal cavity, and granting the admirable stand taken by Tait, as just dilated upon, it would seem to me that —

First, Fecundation of the ovum takes place more frequently than is supposed.

Second, That this being a fact, many sterile women, that is, objectively sterile, who never complain of pain or ache, who ovulate and menstruate with greatest nicety and regularity, and whose general health is perfect, — and such, no doubt, all of us present have met with, — such women, I say, may frequently have fecundated ova, which, like the non-fecundated ova, may drop into the peritoneal cavity and perish, because the soil there is unpropitious for their development.

Third, That occasionally, but rarely, I will admit, this same peritoneal soil, if I may be permitted to use such a term, does present a favorable site for the development of the fecundated ovum, and what is called "primary abdominal pregnancy" results.

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Fourth, This propitious site may be due to old peritoneal inflammatory troubles, which may be so slight, indeed, as to have never given rise to suspicion of their existence; such resting spots in the peritoneum for the development of the young fecundated ovum, though occurring not so frequently as those inflammatory changes in the tubes, causing desquamation of the ciliated epithelium, and thereby tubal pregnancy, as Mr. Tait so ably advocates, *are* nevertheless, to *my* mind, a factor of causation of the so-called primary abdominal pregnancy.

From the physiological proofs, as already cited, I am convinced that extra-uterine fœtation can and does occur either in the Fallopian tubes, by far the most frequent form, *in* the ovary or *upon it*, and even in the peritoneal cavity; and I must truthfully say, that in the study of any given case of misplaced conception, one of the most perplexing questions to decide is, as to which class it properly belongs, — whether tubal, ovarian, or abdominal. This is assuredly true, not only while the patient is living, but after her death; and I can heartily endorse the views of Parry, when he says, "that notwithstanding these common and insuperable difficulties which the pathological anatomist may encounter, even under the most favorable circumstances, a large number of physicians do not hesitate to classify their cases, even when their patients have been carrying the products of a misplaced gestation for years. These remarks apply not only to the statements of physicians who have observed only one case, but to those accoucheurs who have seen many. The result is, that special treatises, as well as periodical literature, teem with statements which are decidedly unreliable, and calculated to mislead those who attempt investigating this subject.

Tubal Ectopic Gestation.

By far the most frequent form is tubal ectopic gestation, ascribed usually to a number of causes, as catarrh of the mucous membrane, causing possibly a loss of the ciliated epithelium, allowing thereby the fecundated ovum to rest and develop in the deluded spot; flexions of the tubes, dilations with hernial pouches, produced by the protrusion of the mucous membrane through separate bundles of the muscular fibres (Lusk). Constrictions from inflammatory changes, causing adhesions, obstructive catarrh, physiological aberrations, or even paralysis, etc., have all been assigned as factors.

Naturally the pathological changes taking place will vary according to the duration and behavior of the pregnancy. As the growth of the ovum continues the mucous membrane of the tube thickens, the tubes themselves gradually distend, the villi enter into the mucous membrane, and,

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according to Bandl, "the two poles of the decidua-like covering are closed, though sometimes the uterine end remains open and in continuity with the mucous membrane of the tube and the decidua of the uterine cavity." Hennig remarks that a decidua reflexa is rare.

The villi continue in their growth penetrating the mucous membrane to the muscular layer, but, according to Leopold, never breaking through the walls of the maternal vessels; nor are any evidences of blood to be found, as is presumed to exist in the intra-uterine development between the villi. The vascularity of the vessels of the tubes and those of the broad ligament in which they lie is greatly increased; the muscular fibres of the tubes, enlarging at first, subsequently become markedly thin by stretching from the continued and increasing pressure due to the growth of the ovum, which finally ruptures the tube, usually between the second and third months. According to Mr. Tait the most common seat of rupture is through the surface of the tube into the cavity of the peritoneum, because, as he says, "the proportion of the circumference of the tube which is covered by the peritoneum is very much greater than the proportion of the circumference of the tube which is related to what is called the cavity of the broad ligament." As a result of such tubal ruptures, the placenta is frequently lacerated, and the hæmorrhage excessive, which pours into the peritoneal cavity, death being frequently due to shock, hæmorrhage, or, if not from either of these, purulent peritonitis is apt to develop.

Associated with the rupture in the wall of the tube may be that of the ovum, with the escape of the fœtus into the peritoneal cavity, or it may be that the ovum remains whole, and in such condition falls into the abdominal cavity; should the ovum, though, remain in the tubes, which is rare indeed, and most favorable, the extent of the hæmorrhage may be lessened. Spiegelberg mentions three instances where this form of extra-uterine pregnancy advanced to full term, and Hofmeier still another. In all three cases the enormous muscular development in the tubal walls was characteristic. Fatal as this form of ectopic gestation usually is, recovery may occur in case of premature death of the fœtus before the tubes give way; and even after rupture has taken place recovery is possible, owing to the formation of inflammatory false membranes around the embryo of the entire ovum. Should the tube rupture at any point not involved by the peritoneum, the folds of the broad ligament become separated by the effused blood, forming a cavity into which the ovum may fall, and either become destroyed, or continue developing up to the fourth, fifth, or sixth month, when it usually dies. Then we have, according to Tait, "a group of cases in which, after suppuration has taken place, the bones of

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the fœtus are discharged through the rectum, through the bladder, or through Douglas' cul-de-sac into the vagina, or sometimes a lithopedion results. The minority proceed to the full time, and are removed, either as living or as dead children, from an extra-peritoneal cavity.

Ovarian Pregnancy.

So long ago as the latter part of the seventeenth century St. Maurice demonstrated a case of ovarian pregnancy. Since that day a number of cases of this very rare condition are now on record, as that of Granville, Porter, Kammerer, Bandl, supported by the thorough investigations of Marimus of three preparations found in the Pathological Museum of Wurzburg, which proved unquestionably the presence of gravid ovaries. In Porter's case the woman died from rupture at between the sixth and seventh week of gestation in her fourth pregnancy. The autopsy revealed the left ovary greatly enlarged, *containing* the *gravid sac;* the Fallopian tube on the same side was found "*floating free and impervious.*" In ovarian fœtation, as is usual, the cyst is void of a peritoneal investment, the walls of the Graafian follicle and the stroma of the ovary forming the envelope about the developing ovum. The chorion is in intimate relation with the interior of the sac. Subsequent to fecundation the Graafian follicle may close, and the ovum continue extra-peritoneal, or the ovum may gradually make its way through the opening occasioned by the escape of the Graafian fluid, and thus come to lie eventually for the most part within the peritoneal cavity. In either case, rupture of the sac takes place early, though when the sac walls are reinforced by inflammatory adhesions to the peritoneal coverings of adjacent viscera, gestation at full term may be reached.

Abdominal Pregnancy.

Primary. — Secondary.

As was shown in an earlier part of this paper, ova frequently becoming fecundated drop into the abdominal cavity and perish, the soil being unpropitious for their further development; occasionally it happens, though, as has been demonstrated, that their death is not so imminent, and that their growth may continue for an indefinite period. Now, the pathological changes occurring in this form of "primary abdominal" pregnancy must be distinguished from those that take place in that form which is termed "secondary." In the one instance we have so minute, soft, fragile, and delicate a corpuscle deposited in the peritoneal cavity

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that one could not well imagine any grave and inflammatory results accruing from its immediate presence. This being the case, then, the contiguous abdominal organs will not be injured by its ulterior development, because, as Cazeaux remarks, they gradually become habituated to it, and the ovule, having obtained a right of possession, "lives, grows, and presents to the smooth, polished surfaces which touch it, a surface equally smooth, polished, and moistened at their expense, and not having occasion for any other protecting envelope, no cyst is formed," the ovum simply surrounded by the chorion and amnion.

On the other hand, in the capital secondary form of intra-peritoneal pregnancy, we have a voluminous product of conception suddenly thrust upon the peritoneum, accompanied by large quantities of blood, wounding possibly, irritating certainly, this membrane so unaccustomed to such harsh intrusion. Here the ovum acts the part of a foreign body, soon determining an acute inflammatory process about it which possibly may form a cyst wall made up almost wholly of plastic lymph, which completely isolates it from the rest of the peritoneal cavity. If the fœtal cyst ruptures, and the contents escape from the amniotic cavity into the midst of the intestinal mass, a renewal of the inflammation occurs, and the cyst just described forms around *it*. As a rule the fœtus perishes at or soon after the time of rupture; still, there are cases recorded, especially by Bandl, where it continued developing even within the sac formed of proliferating connective tissue. With the death of the child it may be converted into a lithopedion, or, through the blood-supply of the connective tissue, it may be preserved for years in its soft integrity.

In all cases numerous and greatly exaggerated vessels form in the cyst walls, the rupturing of which frequently give rise to almost instant death from hæmorrhage. Sometimes, especially when the pregnancy is prolonged, these walls may become destroyed by perforating, fistulous canals running in various directions, frequently communicating with the intestines, vagina, uterus, bladder, or even with the abdominal parietes, opening directly into the external world. Through these fistulous channels the skeletal portions of a putrescent fœtus frequently find their exit; this change is undoubtedly more frequent than that the fœtus should be transformed into osseous or cretaceous substance or even adipocire. Beside these varieties of extra-uterine fœtation, as already mentioned, Bandl records histories of the coexistence of extra and intra-uterine pregnancies, "the latter occurring at the same menstrual period as the former, or possibly after the death of the extra-uterine fœtus."

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Placenta.

In all forms of ectopic gestation, the connection between the ovum and the abnormal surface upon which it is engrafted, is established by a vital adhesion between the chorionic villi and the tissues with which they come in contact, plastic material helping to cement them, as it were. This has been demonstrated thoroughly by Braxton, Hicks, and Engelmann. As there is here absence of the decidua, the process differs from that found in the uterus, where the sub-ovula portion, the scrotina, performs an important and active part in connecting the ovula and material tissues by proliferating cell activity.

The Uterus in Ectopic Gestation.

From researches made by Clark, Oldham, Virchow, Ramsbotham, Cazeaux, Kiwish, Hodge, Hennig, and others, it would seem fair to conclude that the uterus is enlarged even in the early stages of ectopic gestation; that it undergoes changes which are the normal preparatory transformations for the reception of the ovum. A decidua forms in its cavity which is seldom retained until the completion of gestation; on the contrary, it is usually expelled during the early stages of gestation *en masse*, with pain and symptoms of abortion, or it may be discharged in shreds and pieces without symptoms.

References. — *Physiological and Anatomical.* — Dalton, Flint, Hermann, Foster, Yeo, Power, Landois & Sterling, Chapman, Gray, Carpenter, Brubaker.

Special. — *From Text-Books and Journals.* — Parry, Spiegelberg, Bandl, Hofmeier, Leopold, Hennig, Braxton, Hicks, Engelmann, Meadows, Cazeaux & Tarnier, Lusk, Leishman, Hart & Barbour, Greig Smith, Barnes, Tait, Wyder, Jackson, Townsend.

To illustrate what has been said regarding the pathology of extra-uterine gestation, I take pleasure in presenting before you the following specimens, obtained from the Museum of the Albany Medical College, of Albany, N.Y., with the history, as reported by the late Dr. J. H. Armsby, of Albany. (See plates.)

"The specimens were obtained at a post-mortem examination held by Dr. Parkhurst, in the presence of about twenty persons, upon the body of Mrs. Amos Eddy, aged 77, of Frankfort, Herkimer Co., N.Y. Mrs. Eddy's maiden name was Rebecca Smith. She was born in Fredericks-town, Columbia Co., N.Y., in the year 1775. Her parents were born in England. Her mother, Sarah Smith, gave birth to twenty-four children,

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of whom four pair were twins, Rebecca being the twelfth child. Mrs. Eddy was married in New Lebanon, Columbia Co., N.Y., in 1795, at the age of 20, and removed with her husband, Amos Eddy, to Frankfort, Herkimer Co., N.Y., where they both lived and died; he at the age of 70, and she at the age of 77; she became pregnant in 1802, seven years after her marriage, and died in 1852, carrying this fœtus fifty years.

"No unusual symptoms attended her pregnancy; her catamenia ceased, quickening was felt at the usual time, and the motions of the child increased as would be natural. At the expiration of eight and a half months she had severe labor pains, following a sudden fright from the falling of a vessel into the fire while she was engaged in cooking. Her physician, Dr. Farwell, of Litchfield, was called; the labor pains continued for several hours with regularity and force, but at length subsided, and she remained comfortable for two or three weeks.

"Her health then began to decline, and the full period of pregnancy having passed by, her friends became extremely anxious, and availed themselves of the advice of Drs. Guiteau, Hull, Coventry, White, and others. For a considerable time she was confined to her bed, and after a year and a half of extreme suffering her health began to improve, and was finally restored; during the remainder of her life she had good general health, but suffered occasionally from severe attacks of pain in the abdomen, which resembled labor pains. After her health was restored, her catamenia returned, and continued until the age of 45. She travelled much about the country, and consulted various medical men, among others the late Professor Willoughby, of Fairfield Medical College; her health continued remarkably good up to the time of her death, and at the age of 76 she was accustomed to walk five miles from her residence to the village and back again."

"The specimen, with its covering cyst, weighed eight pounds at the time of its removal. The external surface of the envelope was smooth and white, composed of concentric layers of fibro-cartilage, varying at different points from a line or two to three-fourths of an inch in thickness. It had no connections with the abdominal viscera or walls, but was slightly attached to the Fallopian tubes and omentum. The external surfaces of the fœtus was encrusted with earthy substance, of sufficient thickness to preserve its form when dried. The interior seems to be a substance resembling adipocire."

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THE SURGICAL TREATMENT OF INTESTINAL OBSTRUCTION.

[*Continued.*]

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Preparations for the Operation. — The most careful and perfect preparations should be made for the operation. The presence of at least three reliable and intelligent assistants is an absolute necessity. As an exventration may become necessary, and exposure of the intestines to a cool atmosphere is productive of shock, an equable temperature of from 80° to 85° Fah. should be maintained in the operating-room from the beginning to the end of the operation. Opinions among operators may still differ as to the wisdom or even propriety of using antiseptics in a healthy peritoneal cavity, but no one at the present day would have the courage to oppose the use of strictest antiseptic precaution in securing an aseptic condition for everything that will come in contact with the wound or the peritoneal surfaces. For the protection of prolapsed intestine, compresses of aseptic gauze or napkins are better than sponges, and the temperature of the parts is maintained not by pouring warm water on the compresses, but by removing them and applying new ones wrung out of warm water. In cases where the peritoneal cavity is in a healthy condition the use of any stronger antiseptic is contra-indicated. For the cases where septic peritonitis, suppuration, gangrene, or perforation exists, a two-per-cent. solution of boracic acid or a saturated solution of salicylic acid should be kept in readiness for flushing the abdominal cavity. Bands of rubber or fine tubing should always be on hand, as well as a good assortment of aseptic silk, well-prepared catgut, glass drains, decalcified, perforated bone plates, and a good assortment of needles and forceps. Stimulants and means to make auto-transfusion must never be absent, as prompt interference when symptoms of shock make their appearance may prove the means to restore the force of the circulation until the time has elapsed for reaction to take place.

Weir suggested (on the Technique of the Operations for the Relief of Intestinal Obstruction. The "Medical Record," Feb. 2, 1888) the administration of a hypodermic injection of 1–100 to 1–80 of a grain atrophia and a large rectal enema of brandy before the anæsthesia, for the purpose of increasing the force of the heart's action. During the operation the peripheral circulation is best kept up by placing the patient on a

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rubber bed filled with hot water, and in the absence of such a contrivance by applying to the extremities rubber bags or bottles filled with hot water.

Anæsthesia. — A number of American surgeons have recently expressed a preference for chloroform to ether in abdominal operations, as it is less likely to produce vomiting during the administration of the anæsthetic and after the patient has recovered from its effects. Another serious objection to the use of ether, especially in persons advanced in years, is the frequency with which bronchitis is produced when this anæsthetic is exclusively used. The use of chloroform, however, is also not free from objection. The depressing effect of this anæsthetic on the action of the heart is well known, and the force of the circulation is almost without exception seriously impaired in these cases. Its prolonged use might result in dangerous consequences. The best course to pursue is to follow the use of chloroform by ether. The retching and bronchorrhoea are prevented by placing the patient first under the influence of chloroform, and the deleterious effects of the prolonged use of this agent are avoided by keeping up the narcosis during the operation with ether. From the time the first incision is made until the abdominal wound is closed, the patient must be kept profoundly under the influence of the anæsthetic, inasmuch as any interruption will cause an unnecessary delay in the operation and may result in complications which are not easily remedied. Irrigation of the stomach should always precede the administration of the anæsthetic, as evacuation of the stomach by preventing vomiting will guard against the entrance of foreign material into the larnyx and trachea, which might produce asphyxia during the narcosis or pneumonia later.

Incision. — Difference of opinion still exists as to the size and location of the incision. The advocates of exventration argue in favor of a long incision through the median line, while on the other hand a number of distinguished surgeons, among them Madelung, Czermy, and Obalinski, are in favor of a small incision. Pálaillon (Gazette Medicale de Paris, April 25, 1885) is strongly in favor of a lateral incision in opening the abdomen for the relief of intestinal obstruction in all cases where the seat of obstruction can be reached more directly by such incision. In case a distinct swelling, the probable cause of the obstruction, can be detected in the ileo-cæcal region, the ascending or descending colon (as will probably be the case in ileo-cæcal and colic invagination, volvulus of the sigmoid flexure, tumors of the cæcum and colon), the incision should be made over the most prominent part of the swelling, as such a course affords the most ready access to the seat of obstruction, and greatly facilitates the operative procedures which may become necessary. In reference

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to these points, J. Greig Smith regards it as only less than a surgical calamity to perform median laparotomy for obstruction in the colon, since in the majority of cases it must be supplemented by a transverse or lumbar incision.

In all other forms of intestinal obstruction, and in all cases where it is found impossible to ascertain the nature and location of the obstruction, the incision should be made through the median line.

With few if any exceptions, it must be large enough to admit the introduction of the whole hand. As a rule, it may be stated that the case in diagnosis increases with the size of the incision, and the danger which attends searching in the dark for the seat of obstruction more than overbalances the slight increase of risk incident to a large incision. Intra-abdominal manual exploration through a small incision is in most instances an unreliable diagnostic measure, as the cause of obstruction may be of such a character as entirely to elude such a method of examination. It is a well-known fact that the location of the seat of obstruction even in the post-mortem room after a full abdominal section has sometimes been found a difficult task. A large incision shortens the operation by facilitating the intra-abdominal examination and the operative treatment of the obstruction, and the immediate risks of the operation are diminished in proportion to the shortening of the time required in its performance.

Intra-Abdominal Examination. — The first and most important object of the external incision is to enable the surgeon to make a satisfactory intra-abdominal examination. Unless a positive diagnosis has been made beforehand, the first incision is an exploratory one. Exploration of the abdomen for the purpose of locating the obstruction and ascertaining its nature is a more difficult proceeding than in cases of abdominal tumors, and on this account the first or exploratory incision must be made, at least, large enough to enable the surgeon to combine ocular inspection with manual exploration. The surgeon must bear in mind that in nine out of ten cases of intestinal obstruction the cause is located in the lower portion of the abdominal cavity, below the umbilicus, and that in the great majority of these cases it will be found either in the right or left inguinal region.

If the seat of obstruction cannot be readily found by manual exploration of the usual sites of their location, two methods of further examination present themselves. The presenting bowel is drawn forward into the wound and systematically examined step by step as it glides through the fingers of the surgeon, who replaces the loops as they are examined. This method of examination is only safe and practicable where the distention is moderate, and the intra-abdominal pressure not excessive, so

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that loop after loop can be drawn forward, examined, and returned without injury to the intestine. If this method of examination is selected it would be advisable to secure the portion of intestine first examined near the wound by passing a strip of gauze through its mesentery, so that in case the obstruction is not found in one direction the examination in the opposite direction can be made without passing the portion already examined again through the operator's hands.

Where the ordinary methods of examination through an incision large enough to permit the introduction of the hand prove themselves inadequate in locating the obstruction, after a search of from ten to twenty minutes it is useless and unwise to persist in pursuing the same course. Such cases should be dealt with by resorting to exventration. The greatest objection that has been urged against it is that it is sometimes exceedingly difficult to replace the intestines, even after the cause of obstruction has been removed, as the paretic intestines are slow in regaining their normal peristaltic action, and that during the attempts at replacement the intestines are often injured. The proper way to effect replacement is to follow Kummell's advice, and instead of making direct compression to resort to protection of the intestines by covering the whole mass with a warm moist aseptic compress, the margins of which are tucked in under the abdominal incision; in this way the bowels are protected against the injurious effects of irregular direct pressure, and are guided back into the abdominal cavity as the wound is closed from above downward. If uniform, diffuse, gentle pressure fail, the margins of the abdominal incision should be lifted with blunt hooks, an expedient which renders material aid in effecting replacement. Should the obstacles be so great as to frustrate all attempts at replacement, it is better to resort to incision and evacuation of the most distended portion of the prolapsed bowel. This case also illustrates the importance of establishing the artificial anus, when such a procedure cannot be avoided, not in the laparotomy wound, but in the right or left inguinal region. When exventration is practised it is essential to furnish the prolapsed and dilated intestine with an artificial covering which should act as nearly as possible in the place of the abdominal parietes. This is best accomplished with warm compresses in the hands of one or two intelligent assistants. After the surgeon has found the obstruction, it becomes necessary to demonstrate the permeability of the remaining portion of the intestinal canal, as it has happened that after a successful removal of an obstruction that patients have died because a second obstruction was overlooked. Of course, in such cases the search for additional obstructions must be extended below the obstruction which has been found. An infallible test of ascertaining the permeability

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of the remaining portion of the intestinal canal is furnished by rectal insufflation of hydrogen gas. In cases where, after exventration, it is not possible to find the obstruction by examination of the distended portion of the intestine, the contracted empty portion below the obstruction can be brought into sight by the same means, and a search for the obstruction made from below upward by examining the bowel as it becomes inflated until the seat of obstruction is reached.

Operative Treatment of the Obstruction.

1. *Intestinal Anastomosis.* — What shall be done if the obstruction cannot be found after all diagnostic resources have been exhausted? Shall we establish an artificial anus, and leave the patient to the inevitable fate of remaining a sufferer from this loathsome condition the balance of his lifetime, should he recover from the operation? Under such circumstances the surgeon assumes a great responsibility in establishing an artificial anus high up in the intestinal canal, even as far as the immediate effects of the operation are concerned. The paretic bowel below the seat of the artificial outlet, unable to empty itself of its contents, constitutes an immediate and remote source of danger, — the bowel between the new opening and the obstruction in the same condition as before the operation, and permanent exclusion of a considerable portion of the intestinal canal destroys life by progressive marasmus. In such cases, I should advise the following plan of treatment: The empty bowel below the seat of obstruction, if not already found, should be inflated with hydrogen gas, per rectum, and the highest portion of the inflated bowel drawn forward into the wound, and two rubber bands passed through its mesentery, about four inches apart, and held in place by an assistant. The surgeon now locates, as near as he can, the lowest portion of the bowel on the obstructed side, which is also brought forward into the wound and similarly secured. The bowel on the proximal side is incised on the convex surface to the extent of an inch and a half. Through this incision the contents are evacuated, as far as possible, after which all the free rubber bands are tied, and the bowel on the distal side incised in a similar manner. Into each of these incisions a decalcified, perforated bone-plate is inserted; and, with the lateral suture armed with a round needle, the margin of the wound on each side is transfixed.

After the plates and sutures are in, the loops are thoroughly disinfected, and the serous surfaces, to the extent of the size of the plates, are lightly scarified, when the wounds are placed *vis-a-vis*, and the corresponding four threads tied together with sufficient firmness to secure per-

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fect coaptation of the seorus surfaces. The sutures are cut short, and their ends buried as deeply as possible by pushing them between the approximated bowels with a director or blunt scissors. A few superficial stitches of the connected sutures will enhance the safety of the operation. In this manner an anastomosis is established with exclusion of probably only a small portion of the intestinal tract. After uniting two intestines by approximation plates in the formation of an intestinal anastomosis, it appears at first sight as though, on the slightest distention of the intestines, leakage of gas or fluid contents would take place between the two surfaces. That this fear is unfounded, I have satisfactorily proved by a number of experiments. The intestines of animals recently killed were washed, and an anastomosis made between the lower portion of the ileum and the colon. The colon was tied below the new opening, and fluid forced into the ileum on the proximal side. The pressure was measured by a mercury gauge. It was found that no leakage occurred under a pressure of two pounds to the square inch, which was continued for thirty seconds. As even in cases of great intestinal distention the pressure can never reach this degree, leakage from mechanical or physical causes will never take place from the new opening. The margins of the visceral wounds act like valves, and upon the surfaces are kept in contact by the plates, preventing the escape of gas or fluids into the peritoneal cavity. The safety and practicability of this operation I have abundantly demonstrated by my experiments on animals, and by a number of operations on the human subject. The operative treatment of the obstruction will depend upon the location and nature of the obstruction. If it is decided not to remove the obstruction, either on account of its intrinsic harmless character, aside of its mechanical effect, or on account of its extent (in which case the removal would be an imminent source of danger to life), or if, after removal, a recurrence in the near future appears inevitable, an anastomosis is established between the intestine above and below the obstruction by lateral apposition with decalcified, perforated bone-plates. By this operation the continuity of the intestinal canal is restored with the exclusion of the seat of obstruction. In cases of cicatricial stenosis as a cause of obstruction, intestinal anastomosis, for instance, would be a vastly more safe operation than resection and circular enterorrhaphy, and would secure equally well the restoration of continuity of the intestinal canal. In cases of carcinoma of the intestine, with extensive infiltration of the lymphatic glands, a resection followed by enterorrhaphy must always constitute a hazardous procedure; and even if it proved successful, an early recurrence of the disease would be inevitable. Under such circumstances it is advisable to establish, in preference, an intestinal

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anastomosis, which will effectually exclude the cause of obstruction, alleviate suffering, and prolong life. The opponents of laparotomy in cases of acute intestinal obstruction have urged as one of the principal reasons for their opposition, that the dilated inflamed intestine above the obstruction is not in a condition to undergo reparative processes when the operation demands a solution of continuity in this part of the intestinal tract. Circular enterorrhaphy under such circumstances is a very dangerous procedure, for two reasons: (*a*) It becomes necessary to unite bowel ends of unequal size. (*b*) The inflamed intestine has to undergo textural changes, ill adapted for suturing, as the sutures readily cut through the softened tissues. A number of clinical observations have satisfied me that the failures which have attended circular enterorrhaphy in such cases are not due to a lack of healing capacity on part of the inflamed end of the bowel, but to the mechanical difficulties which are encountered in the approximation and retention of the bowel ends, and the danger of the cutting through or yielding of the sutures. I believe, on the contrary, that in cases in which septic peritonitis does not exist, the vascularity of the bowel above the seat of obstruction constitutes a favorable condition for rapid union.

In cases of congenital atresia of the small intestines most frequently met with in the upper portion, anastomosis should always take the place of circular resection, as the operation can be done in less than twenty minutes, — an exceedingly important matter as far as the immediate effects of the operation is concerned in infants at the most only a few days old. In cases where such a congenital defect is suspected, the abdomen should be opened in the median line, being careful not to cut through the umbilicus, when the seat of obstruction can be rapidly located by inflation of the stomach and rectum with hydrogen gas. It is necessary to inflate from both directions, as in some cases the atresia is multiple. In cases of cicatricial stenosis of the pylorus a gastro-enterotomy by lateral apposition with approximation plates is a safer operation than resection or the procedures recommended by Loretta and Mikulicz, while the functional result is equally if not more satisfactory. In carcinoma of the pylorus where resection is contra-indicated on account of the extent of the disease or its extension to neighboring organs, or because glandular infection has taken place, suffering can be diminished and life prolonged by making a gastro-enterotomy, substituting for the tedious double suturing the perforated approximation plates. During the last year I have made four such operations, and with such satisfactory results, as far as the operation was concerned, that I am induced to report them in this connection with the hope that others may give the method of operating a trial in similar cases.

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I have made it a rule that patients should abstain from taking food by the stomach for at least twenty-four hours before the operation, and rely, at least for a few days, entirely upon rectal alimentation, allowing only pieces of ice to quench the thirst. The evening before the operation the stomach is washed out by a syphon tube and again just before the anæsthetic is administered. For the last irrigation a five-per-cent. solution of salicylate of soda is used. In all of these cases the incision was made through the median line, and extended from the umbilicus to the pubes. The opening in the stomach was made parallel to the long axis of the organ, and at least an inch and a half distant from the margin of the tumor. A continued suture of fine silk is applied around the whole circumference of the opening, both for the purpose of arresting hæmorrhage and in preventing bulging of the mucous membrane. In the intestine the opening is made between two rubber ligatures so as to prevent any extravasation of intestinal contents, and the margins of the wound are sutured in a similar manner. The opening in the intestine is made first, and the plate introduced and sutures adjusted and the loop retained in the lower angle of the wound, covered by a warm compress. The large curvature of the stomach near the pyloric orifice is then drawn sufficiently forward into the wound to make the incision and introduce the plates. When everything is ready for adjustment, the parts around the visceral wound are carefully disinfected, dried, and the serous surface is lightly scarified with an ordinary needle over a surface corresponding to the size of the plates; the wounds are then brought opposite each other, and a fine silk suture embracing only the serous and muscular coats is applied behind the lower middle plate suture and tied; the middle plate suture is now tied, while an assistant approximates the two organs the lateral sutures are next tied, and lastly the anterior middle. The sutures are all cut short and ends buried. During the tying of the sutures it is necessary to exercise caution that the margins of the visceral wound are well embraced by the plates all around. As in these cases the weight of the intestine exerts considerable tension, I have taken the precaution in my last cases to apply a superficial continuous suture anteriorly after tying the four sutures, so as to approximate the serous surfaces over the anterior margins of the plates. The necessary preparations made and with good assistance the operation can be finished in from twenty to thirty minutes. Neither shock nor peritonitis was observed in any one of the cases. Usually on the third day small quantities of peptonized milk and beef tea were given at short intervals, and solid diet during the second week. These cases have satisfied me that gastro-enterotomy in cases of inoperable carcinomatous stenosis of the stomach is a safe and justifiable operation and should be more

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frequently resorted to, as it is the only resource which promises relief, prolongs life, and infuses new hope in a class of patients otherwise doomed to a speedy death without a ray of hope.

2. *Physiological Exclusion by Anastomosis.* — In some cases of intestinal obstruction the restoration of the continuity of the intestinal canal by resection and circular enterorrhaphy would necessitate the removal of several feet of the intestine where the cause of obstruction in itself constitutes no intrinsic source of danger, and where recovery would be more likely to take place by the substitution of anastomosis for resection. That resection of a number of feet of the small intestines is not always compatible with health, is well illustrated by a case reported by Baum, in which he removed 137 centimetres in a woman 40 years of age. The patient recovered from operation, and improved for several weeks. Six months later progressive marasmus resulted in death. The autopsy revealed no other cause of death except marasmus from too extensive resection. In such a case I would propose that the twisted adherent intestinal coils, the cause of the obstruction, if they present no evidence of gangrene, should be left and permanently excluded from the fæcal circulation by making an anastomosis with approximation plates between the bowel leading to and from the obstructing mass. A case somewhat similar to Baum's, but under less favorable circumstances, came under my care during the last year where this plan of treatment was adopted. My experiments on animals related in the paper previously referred to have demonstrated that physiological exclusion of a certain portion of the intestinal tract is a less dangerous operation than excision. The appearance of the specimens also tend to prove that as long as any of the contents of the intestines reach the excluded portion, the peristaltic or antiperistaltic action in that part is effected in forcing it back into the active current of the intestinal circulation. If the excluded portion again becomes permeable, it resumes its physiological functions and again takes an active part in the processes of digestion and absorption; if the obstruction remains permanent it undergoes atrophic changes.

3. *Enterotomy.* — Incision of the bowel for the removal of obstruction during laparotomy is indicated when the obstruction is due to the presence of a foreign body, concretion, an enterolith, or a pedunculated, benign polypoid tumor. In the removal of a foreign body, a concretion, or an enterolith not amenable to removal by submural crushing or fragmentation with a needle, the incision for extraction should not be made over the seat of impaction, as this part of the intestine has undergone changes unfavorable to the satisfactory healing of the visceral wound. It is much better in such cases to make the incision in a healthy part of the

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intestine an inch or two below the impaction, and then crush the impacted body by instruments introduced through the incision. The removal of a non-malignant pedunculated polypoid tumor is to be accomplished by making an incision on the convex surface of the bowel, large enough to admit of dragging of the tumor through it, after which the base of the pedicle is transfixed and tied, the tumor cut off, and the wound closed in the usual manner.

4. *Enterectomy.* — Enterectomy is indicated when the obstruction is due to a malignant tumor, if it is possible to remove the disease completely, also for the removal of benign tumors which cannot be excised by enterotomy, and in all cases where gangrene has been caused by constriction, compression, or over-distention. Carcinomatous stenosis is met with most frequently in large intestines, while the causes which result in gangrene are most common above the ileo-cæcal valve. For malignant disease resection should be done, if the entire tumor and all infected glands can be removed completely and with safety, even if on account of loss of substance circular enterorrhaphy cannot be made, as in such cases the continuity of the intestinal canal can be restored by lateral implantation, or by lateral apposition with decalcified bone discs. Immediate circular enterorrhaphy after resection for intestinal obstruction has been mentioned elsewhere. In a series of thirty-five resections of the large intestines which Weir collected, when symptoms of obstruction indicated the operation the mortality amounted to one hundred per cent. In such extensive resection of the colon where the possibility of circular suturing is precluded on account of the impossibility of approximating the cut ends, an artificial anus should never be established, as no subsequent treatment could restore the continuity of the intestinal canal. Two such cases were recently reported by Hahn. It is possible that in the future experimental research will prove the practicability of restoring such defects by a plastic operation consisting of transplantation of a corresponding portion of the small intestine between the separated ends, which would necessitate circular suturing at three different points. Until it has been shown that some such plan is feasible the surgeon must content himself in establishing an anastomosis between the proximal and distal end by lateral apposition with decalcified perforated bone-plates. The latter procedure offers all the advantages to be derived from approximation and keeping in uninterrupted coaptation a large serous surface, with immobilization of the parts it is intended to unite during the process of repair. In circumscribed gangrene due to decubitus and involving not more than one-half of the circumference of the bowel, affecting its lateral or convex surfaces, such as is caused by constriction of a narrow band, resection is not necessary.

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After the constriction has been removed, the gangrenous spot is turned inwards and is covered by suturing the adjacent healthy margins of the bowel over it. The serous surfaces unite rapidly, so that perforation during the separation of the gangrenous part is prevented by union of the serous surfaces over it. When a whole loop or number of loops of the intestine present evidences of gangrene from constriction, the indications for resection are clear as affording the only possible chance of preventing death from sepsis or perforation. Unfortunately in such cases septic peritonitis has usually set in before the operation is performed, and it becomes necessary, after the resection has been made and the continuity of the intestinal canal restored by approximation plates, to treat the peritonitis by flushing the abdominal cavity with sterilized water and disinfection with some mild antiseptic, as a 1-1000 solution of salicylic acid, as advised by Mikulicz. Drainage in such cases is a necessity.

5. *Direct Treatment of Obstruction in Strangulation by a Band or Diverticulum, Flexion, and Adhesion of the Intestines.* — The most favorable cases of intestinal obstruction for laparotomy are those where the obstruction is due to constriction from a narrow ligamentous band. The history of such cases usually points to an antecedent attack of localized peritonitis. One or more of the adhesions, during the course of time, are drawn out into a band under which the intestine is caught, and strangulation takes place in the same manner as in strangulated hernia. These are the cases of intestinal obstruction: if left alone, almost without exception, result in death; if submitted to an early operation, they are cured by one stroke of the scissors. If the strangulated loop presents no evidence of gangrene, and no signs of decubitus are found at the point of compression, the strangulation is relieved by cutting the band; and, for the purpose of preventing a recurrence of the strangulation from the same course, it is necessary to trace the band to its points of fixation and resect it between two ligatures. A diverticulum of the small intestines, or the appendix vermiformis, has often been found as a cause of constriction when the free extremity of these structures had become adherent to some fixed point, and it is always necessary to make a close examination of a constricting band before resorting to cutting instruments, as a mistake in recognizing the true anatomical character of the obstructing cause might lead to serious results. A narrow appendix may be tied and resected the same as a ligamentous band, but when the obstruction is caused by a diverticulum, greater care must be exercised in removing the cause of obstruction. Many of the diverticula, which may have been met with as a cause of obstruction, were nearly as large at their base as the intestine with which they were connected, and in such instances it would be unsafe to rely upon

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a ligature at the resected end, in effecting permanent obliteration, as cutting through of ligature might be followed by perforation, and death from septic peritonitis a few days after the apparent recovery of the patient. The proximal end of such a resected diverticulum must be closed with the same care and in the same manner as the ends of the intestines after permanent interruption of its continuity after resection. If the obstruction is found to be due to flexion, the mechanical difficulty must be corrected by separating the adhesions, as the apex of the flexion is always adherent to some fixed point; after this has been done, the proper shape and contour of the bowel should be restored, and its permeability tested by pushing the contents beyond the flexed part, and if this can be done without meeting with resistance, and the condition of the intestinal walls at the site of flexion presents no serious textural changes, the intestine is returned and the abdominal incision closed. As the concavity of the flexion is usually directed towards the mesenteric attachment, the vascular disturbances are most marked on the convex surface of the bowel, and if gangrene or perforation has taken place it is found at this point. In either of these events it would become necessary to liberate the intestine by separating the adhesions, and then resort to a V-shaped excision of the intestine, the portion to be excised being of sufficient size to include the diseased tissue and to rectify the malposition after suturing. Immobilization of a considerable portion of the intestinal canal by a large blood-clot and extensive parietal and visceral adhesions may give rise to symptoms of intestinal obstruction. When intra-abdominal hæmorrhage is followed by a complexus of symptoms, indications of the presence of intestinal obstruction, the abdomen should be opened and the coagulated blood removed by sponging and flushing of the peritoneal cavity with sterilized water, and the recurrence of the same condition prevented by arresting further hæmorrhage. A form of visceral adhesions between coils of intestines massed into a bunch has already been described as a cause of intestinal obstruction. If this condition has lasted for several days, and the adhesions have become firm, it is absolutely impossible to unravel the gut without running the risk of inflicting numberless and, perhaps, irreparable injuries. In such instances, excision of the mass, followed by circular enterorrhaphy, or anastomosis between the intestines, above and below the obstruction, as previously described, present themselves as the most appropriate methods of treatment. Each of these operations is applicable to special cases, and adapted to meet particular indications. Thus, if any of the embedded coils should present indications of incipient gangrene, resection must be done. If no such textural changes are present, intestinal anastomosis should be preferred, as by it the obstruction is removed, and the portion

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temporarily excluded after subsidence of the inflammation and absorption of the adhesions may again become permeable and resume its physiological functions. Circumscribed parietal adhesions, as a cause of intestinal obstruction, are most frequently met with in the pelvis, and, on account of the greater frequency of pelvic inflammation in the female, occur more frequently in women than in men. Pelvic intestinal adhesions produce obstruction in two distinctly different ways: (*a*) An adherent intestine becomes flexed or twisted by the peristaltic action of free portions, and obstruction results from sudden or gradual stenosis of the lumen of the bowels. (*b*) A portion of intestine becomes fixed at either end by adhesions, and a loop is caught under it, when obstruction is caused in the same manner as from ligamentous bands.

The only case of intestinal obstruction after ovariotomy which occurred in my practice was produced in this manner. The pedicle was tied and its surface cauterized. No untoward symptoms until at the end of the second week, when symptoms of intestinal obstruction appeared suddenly, and increased in intensity in spite of irrigation of the stomach and high rectal injections. She died at the end of a week. The post-mortem showed that a loop of the lower portion of the ileum had become adherent to the surface of the pedicle, and that the mesentery constituted the second fixed point; under this loop another, four inches in length, had slipped from above, downward, and had become incarcerated in this position. The intestine below the obstruction was perfectly empty, while above it was dilated as far as the duodenum.

Quite a number of similar cases have been reported by different operators. In old cases of pelvic peritonitis and salpingitis the cause of a subsequent attack of intestinal obstruction is frequently traceable to intestinal adhesions and the formation of ligamentous bands. In the separation of such old adhesions the greatest care must be exercised not to tear the bowel, as both the parietal and visceral peritoneum may have been transformed into a cicatricial mass, which it is not safe to separate by tearing. The separation must be done by careful dissection, which, for the sake of safety, is done rather at the expense of the parietal than the visceral tissues.

Defects of the peritoneum thus caused or made during other abdominal operations should be covered either by suturing, by laying the omentum over it, or, if need be, by omental grafts, to prevent a recurrence of such complication. The parietal peritoneum is so loosely attached to almost everything, that it yields sufficiently to cover a defect two inches in width by suturing; and whenever this can be done it should not be neglected, as surfaces denuded of peritoneum are liable to become per-

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manently adherent to adjacent abdominal viscera. When the omentum is within reach this should be utilized in covering the defect. During the last year I made a number of experiments on animals which demonstrated that when a piece of parietal peritoneum, three to four inches square, is removed and not restored in some of the above ways, permanent adhesions form between the denuded place and the organ that comes in contact with it. Another series of experiments, which it would be too tedious to describe in full, were to show that peritoneal defects which cannot be restored by suturing or covering with the omentum can be treated successfully by transplantation of an omental or peritoneal graft. In some of the experiments I removed from each side of the abdominal wall, at corresponding points, a piece of the peritoneum, four inches square, and transplanted the pieces to opposite points, and sutured them to the margins of the wound with catgut. All of these experiments proved successful. Omental grafts answered the same purpose, and in only one instance did the graft fail to unite throughout, and here one of its margins projected into the median-abdominal incision, which did not unite by primary union. Infection of this margin led to gangrene and septic peritonitis.

6. *Toilette of Peritoneal Cavity.* — If everything that has come in contact with the abdominal cavity during a laparotomy for intestinal obstruction has been made aseptic by the most scrupulous antiseptic precautions, and the local conditions found have caused no infection, and no soiling of the peritoneal cavity with intestinal contents has taken place during the operation, the abdominal cavity is aseptic after the operation, and can be closed after the removal by gentle sponging of any blood that may have collected. Unnecessary exposure of the intestines should always be most carefully guarded against by compresses around the incision during the intra-abdominal exploration, and by keeping the intestines constantly covered by warm compresses as long as they are outside the peritoneal cavity, for the purpose of preventing infection by floating microbes, and to guard against loss of heat during the operation. The case is, however, entirely different when the parts concerned in the obstruction have caused intra-peritoneal sepsis at the time the operation is undertaken, or when during its performance, in spite of all care to prevent it, the peritoneal cavity has become contaminated by fæcal extravasation. Under these circumstances the peritoneal cavity should be flushed with gallons of sterilized warm water, in which one-tenth per cent. of salicylic acid has been dissolved. The end of the glass tube, or rubber tubing of the fountain syringe, should be held in different parts of the abdominal cavity, especially in the deepest portion of the pelvis and the lumbar regions, so

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as to direct the current of the antiseptic solution out of and into the peritoneal cavity. After the abdominal cavity has been cleansed by flushing, it is dried by sponges wrung out of a 1-1000 solution of sublimate. In such cases drainage should never be omitted. The closure of the external incision, when intra-abdominal pressure is excessive, is greatly facilitated by covering the intestines with a napkin or thin compress of gauze, which is tucked underneath the margins of the wound all around. The sutures should be all introduced before any of them are tied. When the sutures are all in place, they are tied from above downward. If tension is considered, it is necessary to add two or more button sutures, which are only passed down to, but not through, the peritoneum, and are removed as soon as the tympanites disappears.

After Treatment.

Uniform equable support of the abdomen by strapping and bandages over the antiseptic absorbent dressing furnished efficient support to the distended abdominal walls and the paretic intestines, and is not only grateful to the patient, but is an important aid in relieving the distress due to distention and peristalsis. I have insisted that in all operations for intestinal obstruction, efforts should be made to empty the bowel, not only at the seat of obstruction, but as far as it can be done, as such immediate evacuation constitutes one of the elements of success.

J. Greig Smith states distinctly that "no case of operation for intestinal obstruction is properly concluded until the distended bowels are relieved of their contents." One of the most favorable symptoms, after a successful operation for intestinal obstruction, is a spontaneous action of the bowels, as it not only proves the permeability of the intestinal canal, but is, also, an evidence that peristaltic action has been restored. The retention of fæcal material in the distended paretic intestine, after operation for intestinal obstruction, is a condition which not only retards recovery, but is, in itself, a grave source of danger. Through the sympathetic nerves the distended intestine exerts a most depressing effect on the cerebro-spinal centres, while the putrefactive changes, which are constantly going on in the stagnant intestinal contents, must be a constant source of intoxication, while the migration of septic micro-organisms through the paretic walls threaten life from septic peritonitis.

Mr. Tait has taught us the value of cathartics in the prevention of peritonitis after abdominal operations. Would it not be rational to follow his example in the after-treatment of operations for intestinal obstruction? I have repeatedly made the observation that the paretic intestine above

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the seat of obstruction will respond slowly, but surely, to mechanical irritation; and it is only logical to conclude that the same effect would be produced by administration of a brisk cathartic. Dangerous as the use of cathartics necessarily must be before the obstruction is removed, so beneficial may be their judicious employment after the continuity of the intestinal canal has been restored by operative treatment.

THE TREATMENT OF PUERPERAL PARAMETRITIS BY CURETTING OF THE UTERUS. — RIFAT. — *Jour. de Méd., Aug. 19, 1888.*

In a recent epidemic of puerperal septicæmia which came under the notice of the writer it was demonstrated that curetting and methodical dressing of the cavity of the uterus constitute, in certain cases, an excellent method of treatment. Even in very severe cases of this disease, which had been excited by the retention of portions of placenta or membrane, or by putrefying clots, it was found advantageous to drag down the cervix, scrape and dress the uterine walls, and even repeat the operation two or three times in the course of twenty-four hours. The indication for the operation seemed to be limited logically to those cases in which the infectious material had not passed beyond the uterine cavity. If this material had passed into the uterine *adnexa*, or the circum-uterine tissue, the results of the operation could not be expected to be the same as in the other case, and most writers even object to intra-uterine injections for such cases. Fritsch speaks of such injections as dangerous and useless at such times. On the other hand, Doléris, who has done so much to popularize the operation of curetting in France, believes that acute inflammation of the adnexa, which is an absolute contra-indication to curetting in connection with ordinary chronic endometritis, no longer remains so when there are septic conditions of puerperal origin. The writer believes that septic puerperal parametritis may be directly benefited and cured by curetting of the uterus. In three cases of mild puerperal fever which were seen by the writer, in which severe treatment did not seem to be called for, only intra-uterine irrigation was used at first. The cases remained apparently cured for some days, after which there was a sudden outburst of symptoms of severe parametritis. Curetting was performed in each case, the uterine cavity being then cleansed, and an application of a mixture of lactic acid and glycerine, 1 : 3. In all the cases the fever disappeared within forty-eight hours, the pain became less acute, and the patients were enabled to sleep

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without the use of opiates. The subsequent treatment in these cases consisted in the daily application of a pledget of cotton soaked in iodoform glycerine and vaginal douches for a week, the patients being then considered cured.

A. F. C.

INFLUENCE OF THE GENITAL ORGANS ON THE SEXUAL APPETITE. — *Gaz. de Gynécologie.*

"In one of the last meetings of the British Society of Gynæcology Mr. Lawson Tait spoke of the effect produced upon the sexual appetite by the removal of the ovaries of the woman and the testicles of the man. It is usually said that the ablation of these organs leads to the disappearance of the sexual function.

"However, Mr. Tait, after careful search, found a man from whom they had removed the testicles, and who, after a period of depression, had recovered the desire for and the ability to accomplish the sexual act. In women the removal of the uterine adnexa exaggerates in certain cases the sexual appetite, — a result less capable of belief, surely, than its abolition. His researches have led Mr. Tait to regard the subject from a more practical and higher point of view, — as to consider the consequences that in marriage might follow the suppression of organs as essential as ovaries and testicles.

"If it is not possible for a man deprived of his testicles to conceal his deformity, nothing, on the contrary, is more easy than for a woman to marry without her husband knowing that she is deprived of her uterine adnexa. A marriage entered into under such circumstances is entirely immoral, and, moreover, the husband when he protests cannot prove the justice of his accusation without the assistance of the surgeon who performed the operation.

"This is one of the most interesting questions that can be discussed by a society of *savants*, especially at this present time, as the removal of the ovaries has assumed such a wide-spread significance. It is a painful fact for a husband to have a wife and not be able to say whether she has a uterus or not. Mr. Tait, however, has known of three young women, deprived of uterus and adnexa, who are said to have perfectly fulfilled their duties as wives. Nevertheless, Mr. Tait concluded that as lepers are permitted to marry only among themselves, so women without ovaries ought to marry only men deprived of testicles.

"M. Mausell-Moullin said that the popular beliefs, true or false, are shared by the physicians themselves, and that the fear of depriving a

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woman of her sex often lies in the hesitation in which one suggests such an operation for the removal of the tubes and ovaries. He recognized at once that the facts brought forward by Mr. Tait would permit them to act more boldly in those cases where the operation is judged to be necessary."

H. P. N.

LEUCOPLASIA AND CANCROID OF THE VULVO-VAGINAL MUCOUS MEMBRANE. — BESC. — *El Progreso Ginecologico y Pediatra, July 25, 1888.*

The following are the author's conclusions: —

I. Leucoplasia, which has been described heretofore, as it appears in the buccal mucous membrane, appears also in the vulvo-vaginal mucous membrane.

II. It is an affection which is characterized by white patches, and its lesions consist in a thickening of the epithelial coat and the corium.

III. Like buccal leucoplasia, the form which involves the vulvo-vaginal mucous membrane may be the first step in the evolution of papilloma and cancroid.

IV. Leucoplasia and cancroid are distinct affections: the first plays the part of an irritant, and prepares the soil for the evolution of a second.

V. In regard to treatment: —

a. The leucoplasia patches must be treated in the beginning with hygienic and medicinal means.

b. If the patches are rebellious to treatment, and are circumscribed, they should be extirpated.

c. If papillomata have developed, they should be removed as thoroughly as possible, the section extending well beyond the limits of the diseased tissue.

A. F. C.

TUBERCULOUS INFECTION BY THE GENITAL PASSAGE IN WOMAN. — DERVILLE. — *Gaz. Méd. de Paris, Sept. 8, 1888.*

From the researches and observations of the author it would seem that the question of the transmissibility of tuberculosis by the genital passage is not a new one, and within recent years it has been studied by many. The author has frequently sought for and found Koch's bacillus in the vaginal secretions of women having discharges of a suspicious character,

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and this result is in confirmation of the investigations of Brouardel, Hegan, Cornil, and Babes. One cannot be certain that the bacillus is absent from secretions in which it may not be found; a more thorough search might reveal it. As to the origin of the microbe in such a location, there is much uncertainty. Its transmission by the atmosphere is quite improbable; likewise contagion by means of the syringe, or other instruments which may have been used for purposes of cleanliness or medication. There is greater probability that infection is obtained by means of semen, whether this has come from genital organs just attacked by tuberculosis, or from those in whom there are as yet only thoracic signs of the disease, or peritoneal symptoms not very well defined. It is concluded that general tuberculosis in women is of frequent occurrence, and that prophylaxis with respect to this disease is most important. This implies careful attention to cleanliness, and a well-conducted hygiene, not only with reference to the sexual act, but also with reference to the ordinary cares and duties of each day.

VAGINAL HYSTEROTOMY. — SECHEYRON. — *Gaz. Méd. de Paris, Sept. 15, 1888.*

VAGINAL hysterotomy consists essentially in the incision of the uterus *per vaginam*. The incision may involve the neck, or the neck and the body. It furnishes an excellent means of diagnosis, and, at the same time, may be a means of radical treatment. It is applicable to stenoses, and vicious conformations of the neck, whether congenital or accidental. It enables one to recognize small intra-mural fibroids of the uterus, to reach extensive surfaces of diseased mucous membrane, facilitates the investigation of epitheliomata and the cure of endometritis. Incision of the uterus by the vagina is an operation of election which permits the radical extirpation of fibrous tumors and uterine cysts. It is indicated for every fibrous tumor which causes danger to life from hæmorrhage, septic accidents, or functional disorders. The contra-indications of the operation are: —

1. Too great volume of the tumor; that is, if it is larger than an adult's head.

2. Multiple fibromata, especially if they are located at the fundus of the uterus.

These contra-indications may be indications for vaginal or abdominal hysterotomy.

Simple enucleation, or enucleation with traction, leads to traumatic

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accidents, whether injuries to the structure of the uterus, hæmorrhage, or septicæmia.

Enucleation, consecutive to incision of the tissue covering the tumor, is a slow process, requires several operations, and exposes the patient to septicæmia. Péau's method of removing the tumor piecemeal is thought to be preferable. By this method one obtains an extensive field of operation, with easy liberation of the growth, the neck as divided, and the lower segment of the uterus as high as the tumor. It enables one to completely and readily remove the growth by the judicious use of hæmostatic forceps and scissors. Antiseptic treatment should be rigorously carried out, and implies almost certain success. The method is applicable to all myomata of the neck and body of the uterus, and to vaginal or utero-vaginal polypi. In some cases intentional inversion of the uterus will prove a useful preparatory step to the removal of myomata.

A. F. C.

ITEMS.

A NEW institution for post-graduate instruction has recently been chartered in Chicago. The faculty is a strong one, and the new school has at its disposal a large and well-equipped dispensary, while a large free hospital, which is contemplated, will, when finished, increase the clinical opportunities already at the disposition of the faculty. In the list of the latter are found the names of the following gynæcologists: W. H. Byford, H. T. Byford, F. H. Martin, H. P. Newman, and A. Reeves Jackson.

The surgical teachers are Drs. C. T. Parkes and Bayard Holmes.

DR. HENRY D. NICOLL, for some time assistant surgeon of the Woman's Hospital in New York, has been appointed one of the surgeons of that institution, *vice* Prof. Thomas, who has resigned.

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OBSTETRICAL SOCIETY OF PHILADELPHIA.

THURSDAY, NOVEMBER 1, 1888.

Dr. T. M. DRYSDALE in the chair.

Dr. L. J. HAMMOND reported a case of pyosalpinx.

N. J., aet. 22 yrs. Had one child three years ago. Since that time she has not felt well, having frequent attacks of pain in the pelvic region, confining her to bed for weeks at a time. About nine months ago she had a hæmorrhage from the uterus lasting three weeks, followed by a purulent discharge, with severe pain and great tenderness of the abdomen, especially low down, necessitating her remaining in bed two weeks. After this time she resumed her occupation, that of a laundress, until four weeks ago, when the pain became so intense she was again obliged to go to bed, where she remained one week without attendance. At this time I found her with a temperature of 100°, pulse of 120, abdomen tympanitic, and so very tender she could not bear the weight of my hand upon it, together with menorrhagia. Digital examination was deferred until the next day, owing to the great distention of the bowel with fæces, which naturally increased the pain. Upon examination per vagina I found a uterus very much enlarged and bound down firmly posteriorly, together with a large boggy mass on the right side, which was very sensitive to touch. An immediate operation was advised, but was delayed, owing to the absence of relations, until October 18, when, with the assistance of Dr. J. M. Baldy, the abdominal cavity was opened, and a large abscess, with pyosalpinx, was removed from the right side, with great difficulty, owing to extensive adhesion. Several small pus pockets were ruptured during the removal, and about an ounce of pus was discharged. The left ovary was not removed, it being apparently healthy. After thorough irrigation a glass drainage-tube was inserted, and was replaced on the fourth day by a rubber one, which was removed in twenty-six hours. It is to-day just two weeks since the operation, and the patient is well. At no time did the temperature rise above 99½°.

Dr. J. M. BALDY said that it had been stated in the society by a member that he had never seen pus in a tube primarily. The specimen presented was interesting in that connection, as there had been pus in the tube as a primary condition. There was not pus present then, as the specimen had been cut open and had been for a long time in alcohol. There were two sacs in the ovary; one contained pus, and the other a blood-clot as large as a walnut.

Dr. M. PRICE, in answer to a question whether the matter contained in these abscesses was really pus or not, said there could be no question but that it was pus. He was quite sure that it had been examined under the microscope.

Dr. B. F. BAER thought that he was the culprit referred to by Dr. Baldy. In the discussion of this subject before the society, last winter, he was reported as having made the above statement; but he had been misunderstood. What he really did say was, that in his experience primary pyosalpinx was a rare disease; that in the

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uterine appendages which he had removed, the condition was an inflammatory one, involving the tubes, ovaries, and pelvic peritoneum, which had resulted in gluing or matting together the organs, but that he had failed to find pus contained in the tubes and nowhere else; that in the pus cases with which he had met, there was a condition of abscess in which it was difficult to tell whether the disease had originated in the tube, in the peritoneum, or in the cellular tissue, so extensive was the destruction of the tissues and organs in these cases. It would be a very sweeping statement to say that primary pyosalpinx never occurred, and he did not wish to be misunderstood as making it. His experience during the past year confirms the views which he then expressed.

Dr. HAMMOND said there was no question about there being pus in the tube. The tube was larger than his thumb, and thoroughly distended with pus.

Dr. GEORGE BOYD exhibited a multilocular ovarian cyst.

The ovarian cyst which I have to show, in connection with the short history of its growth, I think is of some interest.

Mrs. D., age, 27 years, primipara, I was called to see early last July. I found her advanced in pregnancy. She seemed well, with the exception of the fact that both legs were œdematous. This had caused her some alarm. The urine, by analysis, being excluded as a cause of the swelling, it was attributed to venous obstruction by pressure. She fell in labor August 7, and, with an easy delivery, gave birth to a female infant, weighing eight pounds. I applied the binder, as is always my custom. The uterus was well contracted, its outline regular. There was no evidence of any tumor. On the eleventh day she was out of bed and about, doing her household duties, feeling well, although the labia was greater than it should have been. At the expiration of two weeks I left her doing nicely. September 19, about three weeks after my last visit, I was called again to see her. She stated that she was losing blood, and also that the stomach was swollen. She complained of pain in the left ovarian region. An examination showed a tumor the size of the uterus at the third month of gestation. It occupied nearly a central position, more to the right of the median line, on the opposite side from where she complained of pain. In three weeks more it had attained twice the size, and showed marked fluctuation. Dr. Noble saw the case with me, and together, after a careful examination, we diagnosed a thin walled cyst (ovarian or ligamentary). It continued to increase in size very rapidly, and now was above the umbilicus. The pain she complained of was growing more severe, and she was losing flesh. October 18, a little more than two months from her lying-in, with the assistance of Drs. Kelly and Robb, I removed the growth. The operation was of no unusual interest; the cyst was tapped and delivered; there being no adhesions, and the tumor having a good pedicle, it was easily removed. It sprung from the right ovary. The patient has made a good recovery. Her temperature was at no time higher than 99° Fahr. So little was the shock, that at the end of the first week the baby, who had been nursing, was returned to the breast. The points of interest in the case are these: 1st, her ovarian tumor not complicating labor; 2d, the operation performed during lactation; 3d, an ovarian cyst containing nearly a gallon of fluid, still remaining unilocular.

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Dr. WILLIAM GOODELL gave the history of a case of double intra-ligamentary cysts.

The woman, aet. 30 years, had been infected with syphilis, from which she had suffered, with constitutional symptoms. Two tumors had been discovered a year ago. Her health had failed rapidly, and œdema of the upper and lower extremities were present. The womb was so closely adherent to the tumors, and they were so immovable, that a diagnosis of one multilocular intra-ligamentary cyst was made. At the operation performed at his private infirmary, October 15, an intra-ligamentary cyst of each ovary was discovered, which demanded long and difficult enucleation. They were both extirpated without leaving a pedicle behind. The broad-ligament capsules, being thin, were torn in shreds. These were trimmed and tied, and many bleeding vessels were secured. Deeply-seated oozing, from vessels which could not be reached, was thought to have been controlled by Monsel's Sol. Two other small cysts were now discovered, apparently wholly independent of the ovarian cysts. As they were too deeply seated and too adherent to the rectum on one side, and the cæcum on the other, they were not removed, but were freely incised and cleansed. Many intestinal adhesions had also to be severed in the removal of the larger cysts, which weighed approximately ten pounds on the left side and five on the right side. After careful and repeated flushings of the abdominal cavity, a large drainage-tube was put in. Within two hours serious hæmorrhage took place, and much blood escaped out of the tubes; but as it gradually grew less the wound was not reopened, and in twelve hours it ceased. Five days after the operation, when Dr. Goodell was about to take out the tube, high fever set in, preceded by chills, and the tube was therefore not removed. On the next day a deep-seated abscess burst, and its foited contents escaped through the tube, poisoning the air of a large room for several days. Later a rubber drainage-tube was inserted. Two weeks and a half have now elapsed since the operation, and the woman is doing well; that is to say, her temperature and pulse are natural, and the abscess has nearly healed up, but her convalescence is retarded by a diarrhœa of long standing, which he attributes to specific disease of the intestines, for which he is giving potass. iodide. He has never heard of a surgeon being infected by syphilitic virus during the performance of ovariotomy, yet he did not see why such an untoward result might not happen; and during and after the operation he was careful to cleanse his hands thoroughly and repeatedly with a sublimate solution. Indeed, for several days after the operation, he was quite uneasy about himself, lest he had been inoculated.

Dr. GOODELL also showed the left ovary of a young girl, 22 years old, which he had removed, and which had two pus cavities. in it. No history of peritonitis could be elicited, yet the pelvic cavity was crossed and recrossed with bands of adhesion as tense as fiddle-strings. Many of these pelvic bands and other clue adhesions of the ovary proper had to be broken during the operation. The right ovary could not be discovered anywhere, although very careful search was made by both Dr. Goodell and Dr. W. L. Taylor, and although the pelvic floor was pushed up by the hand introduced into the vagina. A small body as large as a bean, which was possibly a rudimentary ovary, was felt in the right broad ligament; but it was

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so obscured by organized exudation and fastened down by adhesions that no effort to remove it was deemed proper. All the pain was referred by the girl to the left ovary. Dr. Goodell thought that in this case the lesions had come from some exanthematous diseases of childhood, or from latent peritonitis, just as adhesion bands are often found in the pleura, when no history of pleurisy can be found. The girl in this case was a virgin, and he felt very confident that gonorrhœal injection could be excluded. Owing to a constant oozing of blood the drainage-tube was kept in for eleven days, a rubber one being substituted for the glass one at the end of the first week. No complications have returned since her convalescence.

Dr. B. F. BAER presented a specimen cyst removed by enucleation, which had been tapped seven times in seven years.

Miss A. was sent to him by his friend, Dr. S. S. Smith, of Driftwood, Pa., and entered his private infirmary on October 3. She is single, 44 years of age; had enjoyed good health until eight years ago, when she found that her abdomen was increasing in size. She also complained of a peculiar pain, "running down in the pelvis," as she called it. Her abdomen continued to increase in size, until she had such difficulty in breathing that she could not walk upstairs without great dyspnœa occurring. She was tapped on Aug. 2, 1882, and four gallons of fluid, "as clear as spring water," was removed. She does not think that she had lost any flesh during the early development of the tumor. In nine months she was tapped again, and three gallons of fluid removed. Between the first and second tappings she lost considerable flesh. At about the same interval she was tapped again, and three gallons of fluid removed. She was tapped yearly since Aug. 2, 1882, — seven times in all, — the last tapping occurring in April of this year.

Two or three years ago she began to flow more freely at her periods, until they became so profuse that she would flow as long as a month at a time. About the same time she noticed that there was a projection from the vulvar orifice which would become larger she was on her feet and retained her water, and diminished in size after the bladder was empty. She presents an appearance of considerable emaciation, and states that she is rapidly losing strength. Inspection shows the abdomen to be distended to about the sixth month of gestation, and symmetrical. The abdominal wall is very loose and flaccid. There is a circular scar midway between the umbilicus and pubes; and on questioning the patient she explains that she had a "running sore," which continued about two years. The suppuration followed one of the tappings, and took place from the puncture. Palpation of the abdomen shows a loose, thin-walled cyst in the cavity, which does not seem to be adherent to the abdominal wall. Fluctuation marked. Inspection of the vulvar orifice shows a cystocele about the size of a duck's egg, and also an inflammatory swelling of the left labia majora. The vaginal touch shows the cervix to be near the orifice of the vagina, and to be quite small. The lower part of the tumor is felt very distinctly posteriorly, and low down in the pelvis. The uterus is pushed forward and to the right, and occupies a position out of the pelvis above the right groin. The sound passes through the centre of the body last described to the depth of four inches, and shows it to be positively the uterus. The tumor appeared to have pelvic attachments below the uterus, as though it might be an intra-ligamentous cyst.

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Operation, October 6, in the presence of Drs. T. M. Drysdale and Charles P. Noble, and I was kindly assisted by Drs. J. M. Baldy and J. S. Baer. Incision two inches, and when the tumor was exposed to view it was found to be firmly adherent to several places, to the anterior abdominal wall, and to the point opposite the scar seat of former suppurating-fistulous opening above noted; it was found that the fimbriated extremity of the Fallopian tube formed this latter attachment. It was this attachment of the extremity of the tube which had probably caused the elevation of the womb, as that organ seemed to be suspended from the point noted, the Fallopian tube extending from this point downward, over the tumor to the uterus, forming a portion of the wall of the tumor. It was also noticed that the outer and upper wall of the tumor was apparently closely adherent to the intestines. So closely related was the tumor to the intestines, that it was necessary to carefully select a place where puncture could be made without wounding the bowel. About two gallons of thin fluid, rather straw-colored, was evacuated, when the cyst entirely collapsed. On attempting to draw it out, it was found to be so deeply attached that it could not be withdrawn. The upper portion of the cyst wall seemed to consist entirely of the intestines, which escaped through the incision when traction was made upon the cyst. They were hurriedly returned, and the fingers now carried downward toward the base of the tumor, where it was found that the entire pelvic peritoneum of the left side was lifted up; that is, the tumor was entirely subperitoneal and without a pedicle. A condition now presented itself which renders this case one of extreme interest. The base of the tumor was so broad, vascular, and so closely attached to the intestines, that to have begun to enucleate below would have been hazardous on account of the danger of rupturing the bowel, as well as from hæmorrhage, which would probably have been great, from opening of large blood-vessels. We determined that it would be best in this case to begin to enucleate at the point of puncture of the trocar, and it was found, much to our satisfaction, that the cyst was readily separated from its outer or peritoneal coat. So readily was this done that it was unnecessary to ligate a single blood-vessel, and the enucleation was finished within ten minutes. After the enucleation was completed the entire peritoneal covering collapsed and disappeared. It contracted so quickly, indeed, as to make it difficult for me to find its cavity for the purpose of irrigation, which was next done. The thick Fallopian tube was next ligated and cut away, but the tumor itself was entirely without a pedicle, and was monocystic, as you will see in this beautiful specimen. After irrigating, the wound was closed around a small drainage-tube, and the patient returned to bed, showing some evidence of shock from the operation, from which she soon rallied. The drainage-tube was removed within thirty-six hours, and the patient has recovered. During the third and fourth days the urine was found to contain pus and blood, but on investigation it was found that it probably originated from a former cystitis. The bladder was washed out twice daily with carbolized water, and she soon recovered from this condition.

In my experience this case is unique. The cases of broad-ligament cysts requiring enucleation with which I have met have been of such character as to require the application of many ligatures and pressure forceps to control the hæmorrhage during enucleation. Whether this is because I formerly began to enucleate near

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the base of the tumor, by breaking through the outer covering, or whether it is seldom that we meet with a tumor so easily enucleated as this one was, I do not know, but I lean rather to the latter view. My experience with this case, however, will lead me to endeavor, in future, to begin enucleation high up, at the top, and less vascular part of the cyst wall.

It was long ago pointed out by Bantock that in broad-ligament or par-ovarian cysts the peritoneal covering could be readily separated from the cyst proper. This served to distinguish it from the cyst of the ovary, the outer wall of which cannot be separated from the covering beneath it. While this was an intra-ligamentary cyst, it was not that form of cyst which is described by Doran as originating in the hilum of the ovary, and containing papillary growths, several specimens of which I have exhibited to this society.

Dr. B. C. HIRST showed an intra-ligamentous cyst.

This specimen was recently removed by an operation performed by Dr. T. H. Bradford, at which I had the pleasure of assisting. The tumor sprang from the right broad ligament, and was attached deep down in the pelvis. Its blood-vessels were enormous. It was covered by that curious muscular-looking capsule which makes these tumors resemble an enlarged uterus. There was furious hæmorrhage at the lower attachment, when an attempt was made to ligate the pedicle. This was only controlled by a long pair of catch forceps passed in the dark. The entire tumor was removed, and the stump cauterized. The operation lasted over three hours, and the woman almost died on the table. She recovered from the immediate effects of the operation, but died three days later. The mass consists of a papillary growth internally, and a capsule which shows features referred to by Dr. Goodell, in a meeting of the society last December, and that is the seeming rottenness of the tumor wall in spots, which makes it exceedingly difficult to remove these growths without tearing them, and allowing some of their contents to escape into the peritoneal cavity. This happened in the present case. Had the woman lived, it is probable that the peritoneal surface would have been infected by this papillomatous matter.

Discussion.

Dr. R. P. HARRIS gave the case of the late Dr. Emeline Cleveland, who had become infected from an ovariotomy and had a syphilitic sore develop on her wrist, which ultimately was the cause of her death.

Dr. JOSEPH PRICE said the case reported by Dr. Goodell illustrated beautifully the primary and the secondary value of the tube, the signal of hæmorrhage and the cure of the abscess which formed later. The woman would have perished from the hæmorrhage or the abscess had the tube not been used. In regard to the virulence of living pus, he might say that he had twice been poisoned in abdominal work. Virchow had called attention long since to the virulence of living pus. He differed entirely from Dr. Baer as regarded the nature of the cyst which he had presented. It was clearly a par-ovarian cyst. It belonged to that class of tumors to which we applied the minor methods of treatment without knowing exactly what the tumor was. In this case you may strip off the capsule and still have a cyst. This could

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have been done more readily if the specimen were a recent one. The other day he removed an enormous par-ovarian cyst, and in a few minutes was able to convert it into two cysts. Such tumors are always par-ovarian, and the enucleation is easy.

Dr. BAER had already separated the two coats of the cyst. He would confess frankly that, after reading Doran and other writers on this subject, he did not yet exactly understand the difference between these tumors.

Dr. SLOCUM asked Dr. Goodell what, in his opinion, was the origin of the two cysts in his case.

Dr. GEO. SHOEMAKER thought that in using the bichloride solution to wash out incised and punctured wounds it did not penetrate deeply. He should hesitate to place dependence on it unless the wounds were large enough for free irrigation and the solution was strong. A solution made of alcohol and bichloride was the best, as the solution would penetrate to all cysts. Free bleeding should be encouraged and the wound should be enlarged.

Dr. H. A. KELLY thought that Dr. Baer had developed an interesting point in not using any ligatures. He had himself operated in four or five cases in which no tying was required. One of his cases was a pus sac and a small ovarian cyst. After enucleating the mass nothing but oozing points were left. He attributed this to the fact that he had before called attention, that after adhesions had formed the original blood source had withered away, and the mass was supplied by blood from the surrounding parts. In the case of another cyst closely resembling this he had to use a greater number of ligatures than he had ever before used. Every point seemed to bleed and required separate ligature. This case he drained, and she recovered after he had opened a pus sac from the vagina. He now seldom used a drainage-tube — never where he could avoid it. He did not fear clean blood and clean fluid, if not in too great quantity. He had had no trouble for a time in his hospital since he had adopted this method.

Dr. J. M. BALDY called attention to a point mentioned by Dr. Baer. He (Baer) stated that the Fallopian tube was attached near the umbilicus at the point of a scar produced by one of the tapping punctures. This is another illustration of the danger which all now realize. The tube had been perforated by the aspirator, and had become attached to the abdominal wall near the umbilicus. It had here discharged pus for a long time. The fistula which had been left could not be accounted for until the operation. The result of this accident might easily have been most disastrous.

Dr. WM. GOODELL remarked that in reply to the gentleman who asked what those other cysts were, he must confess that he could not explain them satisfactorily. Their presence was something new to him. Whether or not they were due to the syphilitic element he was unable to say. He knew that one was wholly independent of the other two cysts. He was not so sure of the second. He was disposed to attribute the abscess to one of these cysts taking on inflammatory action subsequently.

With reference to the distinction between par-ovarian and broad-ligament cysts, he must confess that he had labored under the same difficulties that Dr. Baer had. The term "broad-ligament cyst" was a generic one, for there are differences in

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broad-ligament cysts. In a par-ovarian cyst the two layers can be readily stript from one another. In an ovarian cyst, on the other hand, every escaping Gräffian follicle has caused a scar which rivets the two tissues together, so that in such a cyst the two layers cannot be separated. Of broad-ligament cysts we have two typical varieties: one is a true intra-ligamentary cyst, usually containing papillary growths, and attributed by Doran to the hilum of the ovary; the other, of which Dr. Baer's specimen was an illustration, is a cyst starting from the horizontal or vertical tubes of the par-ovarium. These are very beautiful translucent cysts, over which the fimbriæ of the Fallopian tube run and spread like the fronds of sea-weed. They also contain limpid fluid. A third broad-ligament cyst is the hydatid of Morgani. There are other cysts to which Doran has referred, but he did not understand fully his description, and he thought that Doran himself does not clearly understand them, from his description. Others describe other broad-ligament cysts. They claim that cysts will form here as elsewhere. For instance, we have retention cysts in the labia from enlargement of the glands of Duverney, and we have other cysts not connected with this gland. These are attributed by some to serous accumulations in the interspaces of areolar tissue. In order to simplify matters, he divides these cysts into two sets, the true par-ovarian cysts and the true intra-ligamentary cysts, liable to contain papilloma. These intra-ligamentary cysts try him more than any other kind. The deep and tedious enucleation and the spouting vessels beyond reach make anxious work. The adhesions also obscure the landmarks and are very perplexing. About five weeks ago he tackled one of these cysts, and in endeavoring to enucleate it, he tore a hole in the bladder, into which three fingers could be introduced. The same accident happened to him several years ago, before he had ever heard of an intra-ligamentary cyst. Both cases fortunately recovered. He sewed up the wound in the bladder, in this last case, with a continuous catgut suture. He then took the portion of broad ligament which had been stripped up and united that over the bladder, so that he had two sets of sutures, like the Czerny-Lambert suture in wounds of the intestines. He introduced a self-retaining catheter, and there was no further trouble except that the eyes of the instrument at first became clogged by blood in the bladder. In the former case a good deal of blood accumulated in the bladder. This he was able to dislodge by injecting a solution of pepsin, which seemed to digest and break up the clots.

Dr. B. C. HIRST exhibited a Bozeman's vaginal bed-pan.

Dr. HIRST also reported six cases of puerperal insanity.

In the last eighteen months he had seen six cases of puerperal insanity,— an unusual experience for an obstetrician, since, according to Fordyce Barker, this condition only occurs once in four hundred cases of labor. Of these six, four were illegitimately pregnant; two had mania, while four presented melancholia, apathetic appearance, and seemed indifferent to all about them; three of the women recovered their reason, two are apparently hopelessly insane, and one died from a septicæmia, which was associated with, and perhaps caused, the mental state. One case was sudden in its onset, violent in its manifestations, but short in its duration; the woman was told two weeks after confinement that her perineum was ruptured, and must probably be sewed together; she almost immediately became maniacal, and

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remained so for about three weeks. A correct idea of the most common variety of this affection of the prognosis, and the best means of treatment, cannot be obtained from an obstetrician's practice, which must necessarily be small, but must be sought for in records of such cases presented by competent observers, who, especially if in charge of asylums, have to deal with a large number of them. Studies of more than eight hundred of these cases by Clark, McLeod, and Wigglesworth have recently been published; from them it appears that the maniacal form of the disease is the most common; that a large majority of the cases recover, usually within six months; that when death occurs, it is commonly traceable to sepsis, which is so often associated with puerperal insanity, although a few cases die from maniacal exhaustion; that the best treatment is the Weir-Mitchell rest-cure. Heredity plays a most important part in the etiology of the disease; very often the subject is mentally and physically depressed. It seems not very uncommon for the chorea of pregnancy to develop into insanity; this happened in one of my cases.

Dr. JOSEPH PRICE exhibited specimens.

The first specimens shown are from a case operated on to-day. He had placed them in a bath, in order that the adhesion might be plainly seen. The pavilion in both tubes was closed; there was no semblance of a fimbriated extremity; the tubes had been separated from the ovaries. He could not enucleate the ovaries in this case until the fundus of the uterus had been shelled out. He always floated the appendages in water, in order that it might be seen that there were adhesions, before the spectators left the room. A simple examination was apt to provoke harsh, and often unprofessional, criticism. There was a gonorrhœal history in this case, and the woman suffered greatly. The last child was born ten years ago, and since then she has suffered constantly. Locomotion was painful and difficult; stepping from a curb-stone or turning over in bed caused great pain.

The second specimen consisted of both Fallopian tubes and ovaries, illustrating that condition known as hæmato-salpinx. In shelling them out, the pavilions were opened and found to contain a coffee-colored material; the condition might be termed an hæmato-salpinx, although that is not exactly what is generally recognized as an hæmato-salpinx. With the fluid or concretion from a typical hæmato-salpinx you can make a black mark on a white wall.

He scarcely knew how to describe the next specimen. The peritoneum was studded with hard bodies; it was difficult to get into the pelvis. A peritoneal cyst, containing a quart or more of fluid, was opened. The tubes were adherent, large, and clumsy; the ovaries are clearly cystic. The adhesions were very general, and it was difficult to start the enucleation. The pavilions are closed. In these cases the adhesions are often so strong that the ovarian tissue is torn, and he has often left a small piece of ovary on the sacrum in trying to make the separation.

Dr. WM. GOODELL understood that the peritoneum was covered with papillary deposit in the last case. There it must be a papillomatous cyst of the ovary, and the papillomata have either grown through the wall of the ovary to its surface, or else they have developed on the surface. In these cases he had found universal infection, with papillary deposits everywhere on the peritoneum. Sometimes these growths have proved malignant, at other times benign.

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Dr. W. H. PARISH asked if the deposits might not be tubercular. It would require the microscope to determine their character. They looked very much like what he found in a case of tubercular deposit in the peritoneum, associated with adhesions and thickening of the tubes and ovaries. He had opened the abdomen, and removed the peritoneal fluid; this had been followed by wonderful improvement. The abdominal tension and distention disappeared, and have not returned. She is now a well woman. Previous to the operation she was almost bed-ridden. He would say in regard to the specimens before him, that they do not exhibit their condition as they do at the time of the operation, and he had thought that criticism on the propriety of the operation was not altogether fair, when made by gentlemen who have not seen the specimens in the fresh state. There is a great difference in the appearance of specimens when presented here and that at the time of the operation. Moreover, the inflammatory mass and the adhesions about the appendages are not fully indicated by the specimens after removal.

Dr. T. M. DRYSDALE saw the specimen in its fresh state. It did not then present the flattened appearance of a tubercular deposit, but resembled the rough, warty look of a papillomatous growth.

Dr. BAER said that the specimens which had just been presented would seem to sustain him in the view which he had expressed regarding the pathology in these cases; viz., that the condition of the tubes usually met with is one of a general non-purulent inflammatory condition, rather than of pyosalpinx; for there is not one of the latter character among the specimens presented. This is the condition he usually meets with in his operations. In one of these cases the disease was said to result from gonorrhœal infection, yet it is not stated that pus was present. There is no question, however, as to the gravity of the disease and the necessity of the removal of the appendages in all but one of the cases presented, whether pus was present or not. The tubes were so hypertrophied and dilated, and the ovaries so thoroughly diseased, that it could never be hoped to cure these patients by any other means than by removal of the appendages. But the specimen which has been placed in water for the purpose of demonstrating that inflammatory adhesions really did exist in the case, and in which the ovary and tube do not seem to be seriously diseased, and of which, he states he has been criticised, sometimes severely, for the removal of the appendages in such cases, should not be passed without comment. He had himself been criticised for removing such tubes and ovaries, and perhaps justly, for it does seem, and he believed it was true, that a specimen presenting such slight disease that it is necessary to place it in water to demonstrate the adhesions to a society of experts, might be cured by operation. In such a case there must, on physical examination, have been very little thickening of its tubes and ovaries felt through the abdominal wall or vagina; there must have been such slight evidence as to require an expert like Dr. Price and some others to determine the presence of disease. He had no doubt that many cases of pelvic peritonitis, even recurring peritonitis, are cured by spontaneous absorption of the inflammatory exudate, without treatment; but he was sure that with treatment, by rest, etc., he had cured many cases where the tubes and ovaries have been as adherent as in this case, and even worse. In such a case there must have been found very little thickening of the

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organs and tissues involved as felt through the vagina and abdominal wall. He had seen such cases get well and have children. It was always well, however, to tell the patient that the disease was liable to return, so that she might observe greater care. But it cannot be doubted that many cases of pelvic peritonitis recover entirely, and do not necessarily have a recurrence of the disease.

Dr. M. PRICE said that he would take great pleasure in showing Dr. Baer the next pus tubes he removed. The specimens before him were as pretty examples as he had seen. In one case there were three abscesses in the one tube, showing positively that in such cases the treatment of Martin by drainage through the vagina was impossible, for good. There might be cases in which such treatment would answer the purpose, but when the tube was sacculated, — each sac containing pus, and in addition, as a result of leakage, there are abscesses in the cellular tissue of the pelvis, — it is not applicable. He did not believe that these abscesses ever occurred, except as the result of leakage.

Dr. J. M. BALDY thought that it did not require an expert to diagnose such tubes as were presented and had been placed in water. The inflamed tubes are plainly and easily recognized. They are felt to the right or left of the cervix or posteriorly in the *cul-de-sac* as an irregular hard mass, which masses it was the custom in times past to diagnose as cellulitis. When removed, the specimens often looked very small. With reference to the absorption of adhesions, he did not believe that this ever occurred. He believed that a tube and ovary once adherent, was always adherent, and that no form of treatment would produce absorption. He had seen any number of cases treated medically for years by the most skilful men, but they had come finally to the knife. At the operation these had been found simply adherent tubes and ovaries. As far as the possibility of these cases becoming impregnated was concerned, where the disease was bilateral, such cases were simply examples of mistaken diagnosis. When the fimbriated extremities or uterine ends of the tubes were closed, it became a physical impossibility for impregnation to take place.

Dr. BAER said that he would be glad to examine any specimen which Dr. Price might wish to bring, but if he expected to show by a pus tube something that he had never seen, it would not be necessary for him to come. He then related the following case in support of his position: Six years ago a lady was sent to him, and on examination she was found to have a small circumscribed tumor attached to the posterior surface of the left broad ligament. It seemed to be an inflamed ovary (and afterwards proved to be), which was surrounded by a mass of lymph, which fixed it in the prolapsed position which it occupied. It could not be determined certainly, but the tube was thought also to be fixed by the lymph mass. The patient had had a child nine years before, and subsequent means for the prevention of conception had been resorted to for a number of years. She now desired children, but sterility had followed this long course of procedures. She was placed upon treatment with which you are all familiar, consisting of rest, massage, electricity, the use of iodine, hot water, etc. The case began to improve after the second or third week of treatment. The tumor, which was not larger than a walnut, gradually became smaller from absorption of the lymph around it; both the uterus and ovary

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became more mobile, and within two months the ovary had returned to almost its normal size. The opposite side was also affected, but less severely. This lady has borne two children since. Would it have been just to the patient to have removed the tubes and ovaries in this case? Is it right to sacrifice the ovaries and tubes in cases of this character, without first making an effort to cure without operation? In some cases the main pathology is a pelvic peritonitis with adhesions, rather than ovarian and tubal disease. He holds that criticism is just under these circumstances.

Dr. H. A. KELLY thought that the discussion aroused by these specimens had assumed a very important direction, and he must heartily agree with Dr. Baer, for he had often seen light adhesions of uterus and ovaries absorbed while under treatment. There is still too much *furor operationis*, and too little diagnostic precision. Men must cultivate their tactile sense more. The mere operation is often nothing. He actually had one case under his care who was told by a doctor in August that there was a pus-sac in her pelvis, and if she did not at once consent to operation her life was in imminent danger. Being his patient, she refused to be railroaded into an operation in this way, and came to him on his return, when he found her pregnant. How careful men ought to be, how little is in the operation, how much in the judgment which decides it. Brandt's treatment of massage deserves careful trial in cases where there is no fluid accumulation in the pelvis. He had long since ceased to bring specimens of freshly-removed tubes and ovaries before this society for exhibition, as it is the same old story every time, and he was allowed to repeat it—big tubes, without ovaries, pus and water, or blood, intestinal and mesenteric adhesions tied off, pelvis flushed, drainage-tube. He had six cases in the past week, all but one most difficult enucleations, but he had no new suggestions to offer, and so he withheld them. It was due to the dignity of the society that, as years went by, we should at least make some advance in our knowledge; but here we were to-day using the same terms we used three years ago, hydro-salpinx, pyo-salpinx, hæmato-salpinx, describing merely the fluid contents of the tube, without any references to the actual disease, the causative factor. What is the process which produces these final stages, and is the hydro, hæmato, pyo contents of the tube the whole disease, or are other structures as well or the seat of the disease? These questions are most important both as regards prophylaxis as well as the mere technique of the operation. We want more natural history of these diseases, and more pathology; then, perhaps, we would devise better ways of relieving these patients.

Dr. W. S. STEWART understood that in the case referred to by Dr. Baer, that only one ovary was involved. Might it not be possible that where the tube of one side was bound down by adhesions, the tube of the other side might have performed the proper function for both, or perhaps all of the functions had been performed by the ovary and tube of the opposite side.

Dr. JOSEPH PRICE was delighted to hear the words of caution and alarm sounded, that it is time to cease removing healthy ovaries. He had never removed ovaries that were not diseased, for vague nervous symptoms. He should be glad to have any of these specimens examined by pathologists, and if they could say that anything could possibly pass through such a pavilion he would be greatly surprised. These cases had been treated medically by the best men in the profession. The

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vaginal vault could be rubbed and painted and tickled with electricity for years, but this would never release the pavilion. Drs. Drysdale and Parvin were both present at the operation, and if they had any criticism to offer, he thought they would have made it. He would be glad to know of any other successful way of treating these old chronic cases, other than by removal, but he did not. Dr. Baer, he thought, did not mean what he said about treating these patients. We may have adherent ovary with the pavilion free. The only way in which such a case could be diagnosed was by the history. These cases can be easily classified — they are all distinct theories; it is folly to say that a tube containing pus is not a pus-tube; again, one containing blood, give it a better name, if you can, than hæmato-salpinx; again, with hydro-salpinx, give *it* a better name, if you can. If any one can go further than Mr. Tait has done, let him do so. At present I think we understand our position. He was aware that men did remove ovaries for ovaralgia, so-called cirrhotic ovaries. He thought that we should condemn all such operations. It is as absurd to remove a so-called cirrhotic as it is to trephine the head for clavus hystericus in the same hysterical patient. He must insist that he operated for actual disease, and that he had no right to touch a patient except for disease. The results of the Battey operation are not good, and it is condemned throughout the country.

Dr. MONTGOMERY reported a case of vaginal hysterectomy with the following history: Mrs. M., a patient of Dr. T. O. Nock, 40 years old, the mother of five children, and the victim of a large number of miscarriages, has been suffering for the last six years with frequent hæmorrhages, which for the past few months became almost continuous. He saw her in consultation with her doctor, some months since, and upon examination found an excoriation on the posterior lip extending into the uterine canal. It was advised that the surface be touched with chromic acid, and subsequently treated with soothing applications; if there was not rapid improvement following this course, a section should be removed for microscopical examination. Failure to arrest the disease, and the demonstration of the presence of epithelioma by the examination of a competent microscopist, led to the decision to proceed to the extirpation of the organ. October 4, at the request of Dr. Nock, and assisted by him and Drs. West, Rively, and Mr. Croskey, he had performed the operation. The patient, anæsthetized, was placed in the lithotomy position, the vagina separated by retractors, and the cervix transfixed by a ligature. The vaginal mucous membrane was cut through, encircling the cervix, the submucous tissue separated to the peritoneum in front and back, the broad ligament was cut laterally sufficient to make sure to free the ureters from injury in securing the ligaments. An opening was now made into the peritoneal pouch posteriorly, and a large sponge inserted, two fingers inserted pushed the fundus forward, and the opening anterior was completed. A pair of strong forceps, so constructed as to make equal pressure in their whole length, was applied upon either side of the uterus, and the organ removed. Some vessels not included in the compression forceps continued to bleed, so that a number of small forceps were applied. In all, some eight forceps were applied, and left hanging from the vagina. The sponge was withdrawn from the pelvis, and the vagina lightly packed with iodoform gauze. The small forceps were removed at the end of thirty hours, and the large ones in sixty. The convalescence

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of the patient was uninterrupted and without event. The highest temperature reached was 100°, on the third day.

Dr. MONTGOMERY also presented a case of supra-vaginal hysterectomy.

The woman, October 29, married, never pregnant, has been suffering for several years from severe hæmorrhagia. One year ago he saw her with Dr. Strittmatter, and, upon examination, found a large fibroid uterus. She presented evidence in her blanched face of having suffered from severe hæmorrhage. The removal of the uterus, supra-vaginal, was advised. She was advised by her friends to consult other parties, who informed her that such an operation would be certainly fatal, and advised the removal of the ovaries. The hæmorrhage still continuing, she went to Dr. Strittmatter's private hospital, and, at his request, Dr. Montgomery performed the operation, in which he was assisted by Drs. Strittmatter, Moylan, and Messrs. Starkey and Sangree, medical students. An incision was made about six inches long, and the tumor, with difficulty, lifted up. The ovaries were enlarged, cystic, adherent, and behind the uterus. The removal of the uterus was more readily accomplished than would have been the removal of the ovaries. With the purpose of returning the pedicle, the neck of the uterus was surrounded with a rubber ligature and the tumor removed, leaving two large flaps; those were sewed together by a number of continuous sutures of catgut until the flaps were completely coapted. Upon the removal of the ligature, however, there was so much bleeding that it was thought better to use the Tait clamp. The peritoneum was sewn fast to the stump of the uterus below the clamp. One ovary had been removed, and the other, owing to extensive adhesions, was permitted to remain. The wound was closed with silk-worm gut, dusted with iodoform, and covered with iodoform gauze and absorbent cotton. She stood the operation fairly well, and suffered but little from shock; the following day the temperature was over 104°. Believing it to be due to the dressing, Dr. S. applied a carbolized gauze dressing, and the next day the temperature was 99°. Her subsequent convalescence was all that could be wished for, and the wound has now healed, with the exception of the lower angle, where the stump was fastened.

Dr. MONTGOMERY read the history of a case of tubal pregnancy for Dr. Nock.

Mrs. ——, 28 years old, married, has had four children; labors normal. Had menstruated regularly until August 17 last, with no evidence of it since that time. She thought herself pregnant, and felt nothing unusual. She arose one morning from her bed and fell to the floor. She went back to bed, and, not improving any, Dr. N. was sent for. He found her with a very pallid and pinched and waxen-like condition of the face, — body and extremities cold and perspiring. Respiration was very rapid and shallow, and the breath cold. Heart-beats regular, but very weak: pulse small and compressible, and very rapid; temperature under 94°; there was marked stupor, but she could be aroused, with difficulty, to answer questions. The uterus was somewhat enlarged, cervix slightly softened, and there was a gradual oozing from the os of a coffee-colored fluid. She had very little pain, but felt extremely weak. Her whole appearance indicated internal hæmorrhage. The diagnosis of tubal pregnancy, with rupture, was made. Laparotomy was considered,

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but deemed useless for fear the etherization would cause heart failure, and death on the table in consequence. Diffusible stimulants were freely given, and the local application of heat was used in the hope that reaction might occur, and laparotomy be possible. She continued to fail, and died at 10.30 P.M., never having recovered from her shock. The post-mortem showed an abdomen filled with blood-clots. A small fœtus was found in the left inguinal region, floating in its sac, which was still unruptured. The tube was found to be ruptured midway between the uterus and ovary, leaving the placenta still in the tube. Development had advanced to about the seventh or eighth week.

Dr. MONTGOMERY then exhibited a clamp he had devised for clamping the broad ligaments, in cases of vaginal hysterectomy. The two blades were each grooved, and could be closed with a parallel motion. They were joined at the top by a permanent joint. The surface of the blades was long enough to include the whole ligament in one grasp.

Dr. WM. GOODELL was sorry that he had overlooked the fact that Dr. Montgomery had a case of this kind to present. He should like to have brought a pair of Doleris' forceps, which he received through the kindness of Dr. Lusk. It is a clamp analogous to the one shown, but it has the obstetric lock. The blades can be disarticulated, and one of them ends with a short hook, by which the broad ligament is caught at its upper edge and brought down. He had not had occasion to perform the operation since he had received the clamp, but he had had two cases, one of which was fatal. The operation with the ligature was a tedious one, and the use of the clamp must shorten it. He believed that we were indebted to Richelot for the clamp.

Dr. J. M. BALDY asked how Dr. Montgomery would apply his clamp. It was much like the one figured in Greig Smith's book, except that it was permanently locked above at this joint, where Smith's could be taken apart, one blade introduced on each side of the ligament, and then the joint made above. He could not see how this one could be easily applied unless the abdominal cavity were opened, and it was slipped down from above.

Dr. WM. PARISH had seen the description of a clamp with separable blades, the deviser of which he could not recall. One of the blades has a long fræstrum open at the distal end, and the other blade fits into this open space. This gives uniform compression of the broad ligament. With the instrument shown the compression may not be uniform.

Dr. MONTGOMERY said that in the majority of cases there was not much infiltration of the ligament. After cutting the ligaments in the manner described, the uterus can generally be readily everted, and the fundus of the organ brought to the vulvar orifice, and the clamp applied forms the outside. Even in those cases in which the ligament is not readily drawn out, he saw no reason why the instrument should not be pushed into the abdominal cavity, and one blade brought down on each side of the ligament. If the instrument was clean it would do no harm to the peritoneal cavity.

Dr. BALDY said that the specimen of tubal pregnancy was interesting as demonstrating Tait's theory of the pathology of extra-uterine pregnancy. Tait

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holds that rupture takes place into the broad ligament, and that the fœtus then goes on to develop, or a secondary rupture subsequently takes place into the abdominal cavity. This process is most beautifully shown in this specimen. The cavity of the tube and broad ligament form one, and the rupture has taken place into the peritoneal cavity.

Dr. H. A. KELLY described some glass catheters.

Some five years ago he was hard pressed to catheterize a woman suffering from a distended bladder; not having his catheters with him, and being at some distance from his office, he took the crooked glass tube out of the baby's feeding-bottle and drew the water with perfect ease. Since that time he had more or less constantly used glass catheters, which he had had constructed for the purpose, and he placed far more confidence in the glass than in the metal catheter. The manifest requirements of a good catheter are that it should be easy to introduce, draw the water quickly, and be readily cleansed afterwards. The first two requirements are readily answered by any materials of which catheters are commonly made. In the last lies the difficulty. It is impossible to be sure that the inside of the catheter is clean. He has hitherto directed the nurses in his hospital, where the catheter is in constant use, to keep them, when out of use, in boiling water. He is now using glass catheters, constructed like those he exhibited. They are very cheap, safe (never breaking when in use), and cleansed with ease and certainty. In a hospital a number can be kept standing in a jar containing a disinfecting solution. The device of catheterizing with a glass tube is so simple, that he was sure many present, as elsewhere, must have resorted to it long before this. He was also not surprised this summer when he found well-made glass catheters for sale at the instrument makers in Berlin. He presented two patterns, which were sold by Gemrig at 25 cents each.

Dr. KELLY also read a paper on the distribution of hairs on the female genitals, to which he gave the title of the "Female Escutcheon," pointing out the characteristic differences between the male and female types, as well as the development of the "escutcheon" at puberty, its persistence throughout the period of sexual activity, and its disappearance in old age. Dr. Kelly also drew certain conclusions as to the value of the "escutcheon" in cases of retarded development and doubtful sex.

Dr. T. M. DRYSDALE remarked that he was positive that after death, or before, the sex could not be told by the distribution of the pubic hairs. He had seen the two types, that of man and that of woman, run so nearly together that no reliance whatever could be put on this.

Dr. WM. GOODELL stated that Caspar in his "Forensic Medicine" had referred to the different distribution of the pubic hair in the male from that of the female, as a means of diagnosticating the sex in decomposed bodies. Dr. Goodell did not know what rôle the pubic hairs played in the economy. It certainly cannot serve as a pad, because in Mohammedan nations the genitalia of both sexes are scrupulously depilated.

Dr. SHOEMAKER said a reference to this subject may be found in the "American System of Gynæcology." Dr. Kelly does not regard this as an absolute rule. He has seen the hair extend to the umbilicus in the female as in the male, but has fre-

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quently noticed some of the points to which he has called attention. He is correct in regard to the general type.

Dr. STEWART said the rule among the Indians is to have the hair extracted and not shaved. Four years ago, while travelling in the West, he was shown some photographs of nude Indian women, and inquired why there was no exhibition of pubic hair, and was told that they always had them extracted. He thought the use of the hair was for the protection of the vulva, just as the eyebrows and lashes were for the protection of the eye from perspiration, etc.

Dr. KELLY was glad that the discussion had brought out several interesting points in the natural history and in anthropology. In the Eastern countries where it is a disgrace for a woman to have hair on her genitals, they have a saying of reproach, "Thou son of a woman with hair on her parts." The male type is very different from the female type. It is rare to find in the female more than a few scattering hairs run up to the umbilicus. He called attention to the subject as a complete picture. Dr. Coe, in the last number of the "American System of Gynæcology," says that in examining six or seven hundred women in Vienna, he found only six or seven in which the hair tended to go toward the umbilicus, which were rather of the male type. This is an interesting and important fact.

J. M. BALDY, *Secretary.*

REVIEWS.

A MANUAL OF THE MINOR GYNÆCOLOGICAL OPERATIONS. By Halliday Croom, M.D. First American from second Edinburgh edition. Revised and enlarged, by Lewis McMurtry, A.M., M.D. Phila.: Records, McMullin, & Co., Limited, 1888.

A WORK of this sort is not generally appreciated by the trained specialist, but to the student and general practitioner it is an invaluable aid. We believe that the time is not far distant when the application of pessaries, tincture of iodine, and the performance of the strictly minor procedures in gynæcological treatment will fall more and more into the hands of the intelligent family physician, while the more dangerous and the abdominal operations will be performed by specialists. In other words, that the future gynæcologist will be known by his surgical ability. Be that as it may, this book will find its place in the libraries of those physicians who are not disposed to send all these cases to the specialist, and that it will be welcomed by the student goes without saying.

The illustrations are clear and concise, and those showing the introduction of the lever pessary are so plain as to be unmistakable. There is henceforth no excuse for inserting them upside down and wrong end

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foremost, as some men have done, who have struggled to understand the verbal descriptions given in some text-books.

The subjects are concisely described, and there is no unnecessary repetition of words.

A very important feature of the book is its adaptation to the American practice of gynæcology by Dr. McMurtry, consisting of an introduction, an entire chapter on laparotomy, with remarks on the use of pessaries and Emmett's modified perineorrhaphy. We confess that we are somewhat surprised to see a description of the operation of laparotomy in a book of this sort, but it must be remembered that not all physicians into whose hands this book will fall live next door to a laparotomist. There are cases miles away from a consulting surgeon that require immediate operative interference, such as extra-uterine pregnancy. And the physician may be extremely thankful that he has been able to carry in his mind the short, clear description that is given here. The editor justly cautions against aspiration for the removal of fluids. Not only is sepsis liable to result, but, as in that class of cases described in the September number of the ANNALS, pages 564 and 590, portions of papillomatous growths may be set free to vegetate upon the intestines and peritoneum.

We have read this little book, and commend its methodical and clear arrangement of subject-matter.

H. P. N.

THE PHYSICIAN'S VISITING LIST FOR 1889. Phila.: P. Blackiston, Son, & Co.

FOR thirty-eight years this little visiting list has found favor with the profession, and its advent reminds us not only of the flight of time, but of the necessity for saving it. It comprises an almanac, table of signs, Marshall Hall's ready method in asphyxia, poisons and antidotes, metric system, dose table (revised), *list of new remedies*, aids to diagnosis and treatment of diseases of the eye, diagram of eruption of milk teeth, posological table, disinfectants, examination of urine, incompatibility, *new complete table for calculating the period of utero-gestation*, Sylvester's method, transportation of injured persons, and diagram of the chest.

The various blank leaves are as usual. The perpetual edition is recommended to those who are just beginning practice. The size is convenient, and just thick enough not to be cumbrous and yet hold all that is necessary.

H. P. N.

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HOSPITAL REPORT.

MURDOCK FREE SURGICAL HOSPITAL FOR WOMEN. THREE CASES OF OPERATION FOR VENTRAL HERNIA FOLLOWING LAPAROTOMY. SERVICE OF DR. E. W. CUSHING. REPORTED BY F. L. BURT, M.D., ASSISTANT SURGEON.

CASE I.

MISS B., aged 22, entered the hospital Oct. 29, and was operated upon Oct. 30, 1888. Her menses began in the thirteenth year, have been of one or two days' duration, and irregular. Besides, she has suffered excruciating pains of a spasmodic character, compelling absolute rest and frequent use of anodynes. Two years ago indications presented themselves for a laparotomy, which was performed at her home in the West, at which time the left ovary was removed, but the right was spared, being at the time normal in appearance. The incision, as now shown by cicatrix, extended from the symphysis to the umbilicus. The operation was successful, except that with convalescence a bulging in the form of a ventral hernia appeared in the lower two inches of the cicatrix. Following this there was not the expected relief from the ovarian pain, the trouble evidently being present or soon developing on the other side. At present this is exceedingly tender to the touch per vaginam in the right fornix. The indications now are to remove the remaining ovary and radically cure the hernia. An incision was made in the lower three inches of the cicatrix, a little to the right of the median line. The hernia was found to contain adherent omentum. At this point the abdominal wall was quite thin, containing nothing of any strength but the external skin. The sheath of the muscles had not been united. The right ovary was raised, found diseased, sewed off with shoemaker stitch, removed, and pedicle dropped. From the presence of the hernia the abdominal wall had become very thin, and, consequently, if brought together, would not be any stronger than before. The sheath of the muscles had retracted perhaps one inch. In order to give suitable strength, it was necessary to make broad surfaces and approximate the retracted parts. The flap was dissected by splitting them over a surface the size of a silver dollar, a very little of the thinnest tissue removed, and sutures were placed through the edges of the skin, then passed outward so as to include the sheath on either side, and, when tied, to approximate broad surfaces of tissue. The wound healed perfectly; there were no symptoms, and she was discharged Nov. 29, 1888.

CASE II.

MRS. C., aged 33, has history as follows: In April, 1887, her physician recommended for her an operation on the perinæum, which was

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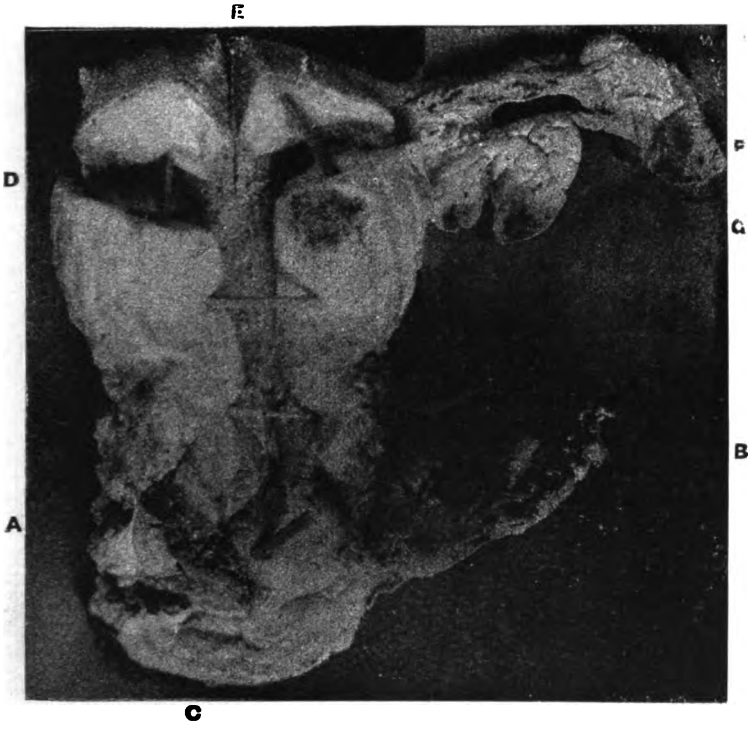
completely ruptured, extending about one and one-half inches above the sphincter, and causing a complete loss of control of the bowels. At that time a tender mass was felt in the vicinity of right tube and operation delayed. The mass was aspirated by vagina and ʒiv of clear fluid, highly albuminous, was drawn off. About one week later the abdomen was opened; the peritoneum adhered all about the mass, which was hard, nodular, and was considered malignant. The wound was closed. In June, 1888, she was seen and examined, and entered the hospital. There was no indication of malignant trouble, and the diagnosis of pyosalpinx was made. Operation was performed June 7, 1888; right tube and ovary removed. Then came perfect recovery from this operation. The second incision had to be made in about the line of the first, and after healing there was not so much strength as there would ordinarily have been. A small hernia developed, and she returned to have it repaired, Oct. 30, 1888. The parts were found quite thin, and were cut away so as to get into thicker tissues. The wound was closed with deep silk and buried gut ligatures. There was perfect healing, but the operation as done in this method did not seem quite so satisfactory as that employed in Case I., in which broad surfaces were made by splitting the flap. Patient recovered perfectly from the operation, and on Dec. 13 the cervix and perinæum were restored by operation.

Case III.

Mrs. D. entered the hospital in June, 1888, at the recommendation of her physician, Dr. Forest, of Rockland. She stated that although married for over a year her husband has never been able to consummate the marriage by sexual intercourse, and that he was about to apply for a divorce.

Examination shows the external parts normal, the entrance to the vagina occluded by a fleshy mass, in the lower part of which was an opening, which, with difficulty, admitted a sound. (Fig. 2.) Through this, menstruation took place. The parts were sensitive, and irritated by fruitless attempts at intercourse. Rectal examination showed the presence of a uterus and of ovaries. Under ether the obstruction was divided, and found to be about half an inch thick, and very tough and resistant; beyond this was a narrow vagina. The whole thickness of the obstruction was removed all around, and the mucous membrane within united to that without by continuous catgut suture. The parts healed well, the vagina was dilated by packing with iodoform wool until it seemed normal, and the patient returned to her home and husband in time to assist in celebrating the Fourth of July.

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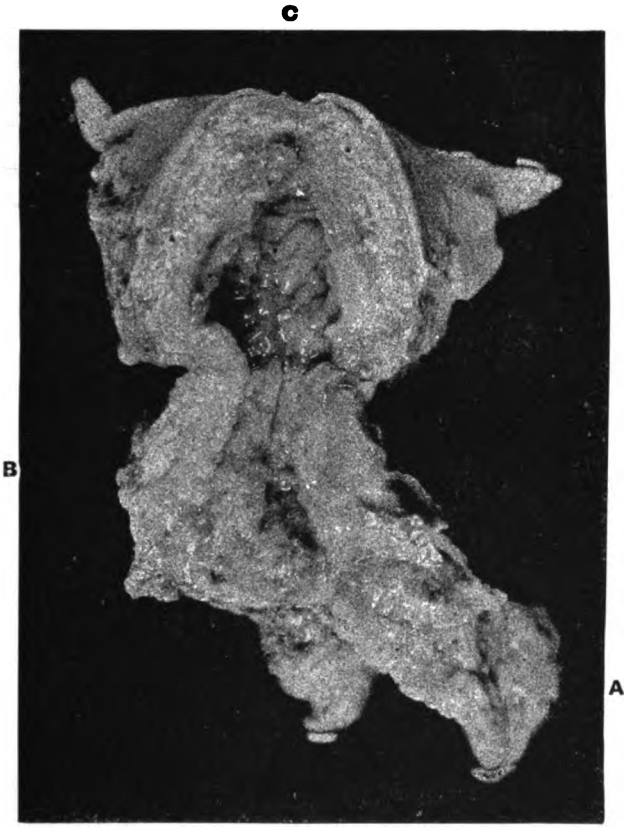
UTERUS REMOVED BY VAGINAL HYSTERECTOMY.

(Case II., page 205.)

PLATE I. — **A, B, C** — Cancer of neck, not involving body. The part nearest **B** was continuous with that nearest **A** over **C**. **D** is opposite a transverse incision, which lays open the cornua. The floor of this cut is in shadow, but not diseased. **E** is over a longitudinal incision, the floor of which is healthy tissue. **F** — Left tube, and **G**, ovary, in situ. Those on the right were removed separately.

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UTERUS,

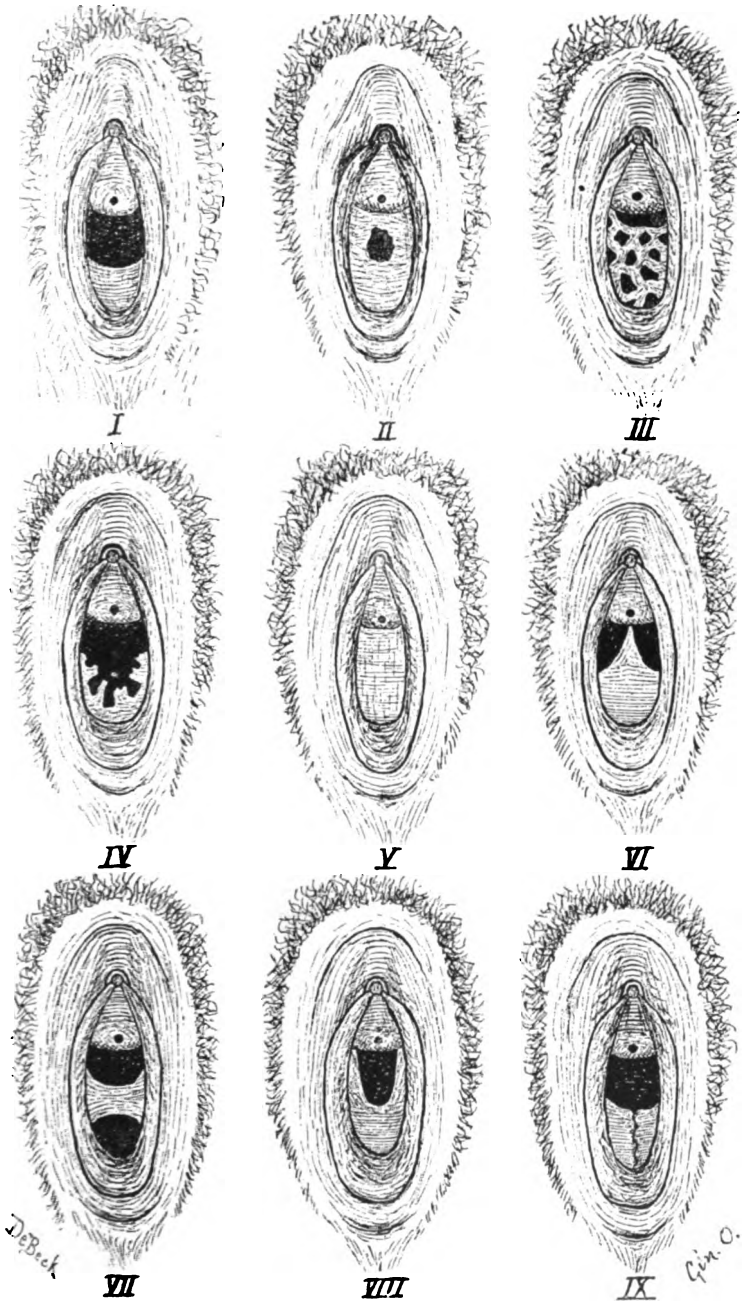
Showing cancer of cervix and fundus; removed by vaginal hysterectomy.

(See page 206.)

A, B—Cervix invaded by cancer; **A** was continuous with **B.** **C** is over an incision laying open the fundus and cervix. The disease had spread, by extension along the mucous membrane, from the cervix over the whole uterine cavity.

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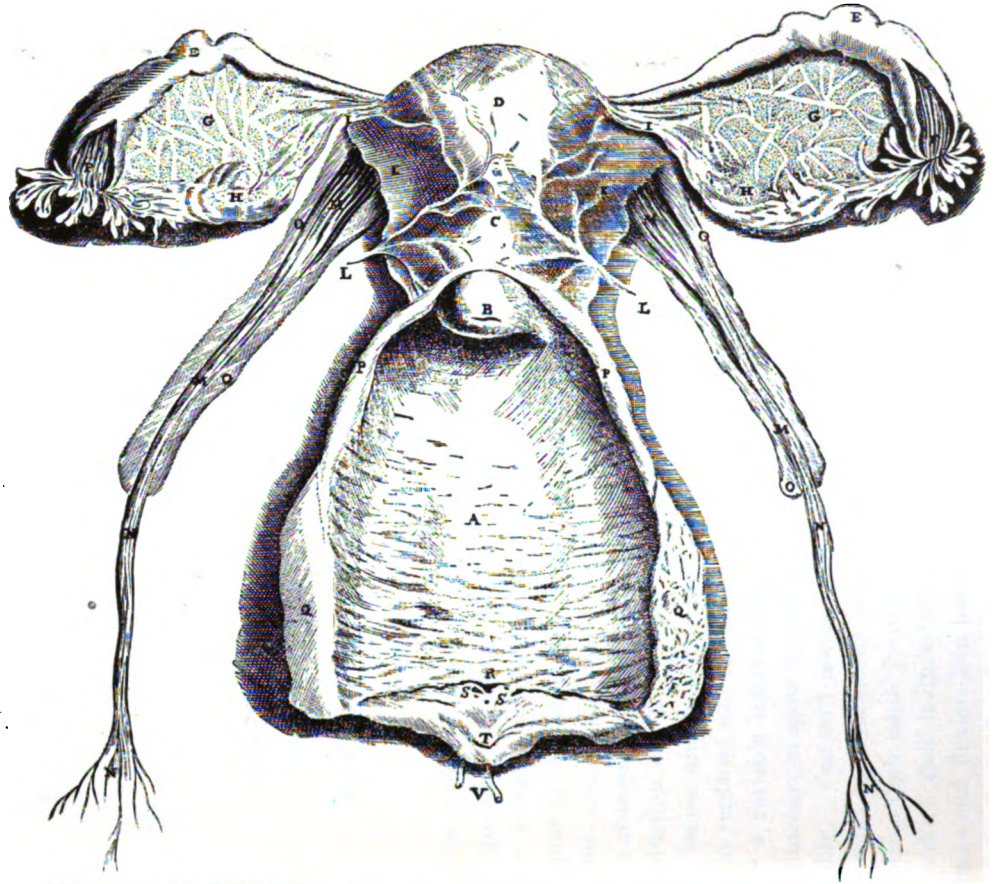


VARIETIES OF THE HYMEN.

(See page 168.)

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NERVES OF UTERUS AND OF BROAD LIGAMENT. De Graaf, A.D. 1678.

Q, Q. — Nerves scattered through the Ligament called ala vespertilionis. **L, L.** — Slender nerves disseminated through the uterus as sometimes observed by author; other figures in DE GRAAF'S work give disposition of arteries, veins, and lymphatics. Attention has recently been called by DR. ARTHUR JOHNSTONE and PROF. LAWSON TAIT to the important functions of the nerves at **Q.**

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ANNALS

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ORIGINAL COMMUNICATIONS.

RETRODISPLACEMENT OF THE UTERUS.[1]

BY F. R. ECCLES, M.D., OF LONDON, ONT.

RETRODISPLACEMENT of the uterus, with its usual antecedent chain of sequences and subsequent chain of results, forms one of the most frequent ailments which come under the observation of the gynæoclogist. Frequently associated with inflammatory changes, either uterine or perituterine, and being in some instances the cause, and in others the result, of those changes, one can readily see that only with the most careful discrimination can the proper element be eliminated. Then, after all the side issues are removed, the constitutional element corrected, and the uterus replaced and retained, either with or without a support, one finds, after a variable interval since discontinuance of treatment, that there is a tendency, in quite a number of cases, to the recurrence of the same trouble. You will notice that I use the term *retrodisplacement*, as I do not wish to disassociate retroflexion and retroversion, as my experience has been their more frequent association than otherwise; so that in my remarks I shall include both retroversion and retroflexion, believing that version and flexion join hands in producing the posterior displacement. Sometimes one is led to wonder how it is that we have retroflexion and retroversion occurring so frequently.

Its very frequent relation to the puerperal condition is admitted by all; while some assert that, outside this condition, it is almost unknown. Lawson Tait, in his work, "Diseases of Women" (77), says: "I have

[1] Read before the Detroit Gynæcological Society, Sept. 12, 1888.

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only twice found a well-marked retroflexion in a virgin, and retroversion comparatively seldom;" and also, "if the marks of virginity are gone, and the patient has not previously worn instruments, I should always be inclined to set down a well-marked displacement backwards, especially retroflexion, as the result of an indiscretion." I do not think this is in accord with the experience of most of us. No later than the 3d of August last, a patient that I had treated for retrodisplacement in 1884 and 1885 returned to me complaining of the same symptoms as before, gradually getting worse for the last six or seven weeks. Sensations of uneasiness across the lower part of the abdomen, and frequency of micturition, with an almost unbearable nervous distress that she could not well explain. In addition to this there was more or less irritability of the stomach, resulting occasionally in vomiting. She volunteered the statement that her old ailment had returned, as she felt exactly the same train of symptoms.

Upon examination I found the retrodisplacement present, and replaced the uterus with the sound, but put no pessary in. The hymen was tense, and required gradual dilatation before I was able to replace the uterus. In referring to my notes of Dec. 13, 1884, I noted that I had some difficulty in dilating the elastic and muscular tissue of the hymen, as the opening was very small and the hymen somewhat unyielding. I only passed the little finger first, as in dilatation of the female urethra. I followed with the index finger, but did not replace the uterus until the next examination, Jan. 10, 1885.

With proper care and no undue haste the uterus can be replaced, watch-spring ring-pessary introduced, and removed some weeks later; and such is the normal elasticity and contractibility of the parts, that the hymen and vagina will return to their natural condition in a few weeks after the removal of the pessary. I could mention quite a number of cases in virgins where displacements were the main and, indeed, only cause of obstinate vomiting, and where a small ring or Hodge pessary entirely allayed the vomiting; and this after attention had been first directed to every other organ except the uterus. I have no hesitation, therefore, in saying that a small proportion of our cases of retrodisplacement will be found in the virgin, and that the large proportion is in some way connected with the puerperal condition.

And seeing that such is the case, one naturally asks, Was it intended that such results should so frequently follow parturition, or is this condition, to a large extent, a preventable one? Is it the Nemesis of luxurious living, — the punishment of our modern civilization? Is it a fact that, from want of proper physical exercise (and especially exercise in the open

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air), combined with sedentary employments, a large number of those cases result?. Poor living and ill-ventilated buildings, by exercising a depressant effect upon the constitution, pave the way to the more frequent occurrence of this ailment amongst another class.

What is a displacement backwards? If we were all agreed as to the normal position of the uterus, we could certainly all agree as to the degree of retrodisplacement. As there are variations of the length, breadth, position, turn of the tip, and spread of the alæ of the nose, quite consistent with female beauty, so we know there are variations (perhaps as numerous) of the uterine position in the pelvic cavity, consistent with health and the proper performance of the function of the uterus. In the recumbent, sitting, or erect position the uterus *varies* slightly in its place. It is well to recollect that the uterus, in its normal condition, is very movable, — indeed it is one of its striking features. It is questionable if the round and broad ligaments are supports at all, in the general acceptation of that term. In their normal condition they cannot do more than steady the uterus. With the woman in Sims' position, and perineum well retracted, one can easily observe how freely the uterus moves during respiration.

One recognizes, either in the erect or recumbent position, a retrodisplacement by his ability to feel the *fundus uteri* in Douglas' cul-de-sac. Following up the posterior vaginal wall, and pushing the index finger well up behind the cervix, if one cannot feel any firm body there, he excludes retrodisplacement. This has always been my rule, and I think is sufficiently correct for all practical purposes. It is hardly necessary for me to mention that while the absence of any firm body in Douglas' cul-de-sac excludes retrodisplacement, the presence of such by no means confirms retrodisplacement, and necessitates a most careful differential diagnosis, the methods of which I need not here mention.

Remembering the utero-sacral ligaments as the upper lateral boundary of Douglas' cul-de-sac, and that pelvic cellulitis, in and around these ligaments, produces a condition which is very frequently mistaken for retrodisplacement, should make one never forget the abdomino-rectal examination in all doubtful cases.

In no ailment which comes under the observation and care of the physician is the etiology of more importance than in the ailment you have given me the honor of bringing before your Association to-night. And yet I must confess our positive knowledge is very meagre.

Taking parturition as a centre, we find running out from it so many avenues which lead to deteriorated health; while in not a few instances it is the centre from which radiate much physical and mental vigor. The

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examination of this subject in this light alone would be full of interest to the reflective mind.

Concerning retrodisplacement, we, in a general way, do not hesitate to put our finger on parturition as the most potent factor in its production. And so, in a general way, one may say in speaking of causes (in addition to what I previously hinted at) that everything which tends to relax the uterine support, or to increase the height and size of the uterus, the presence of an outgrowth in the wall of the uterus which might make it topple over, or an acquired disproportion between the body and cervix, or a general want of *nutrition*, associated with feeble health, will contribute to the production and continuance of posterior displacements.

Now, were I to specify this general statement of causes, one would find that the causes are those which we most frequently find in women who have borne children. This, and this alone, is the reason we find these displacements less frequent in the unmarried and sterile. In the unmarried, neglect to attend to the calls of nature, leading to habitual constipation and frequent distention of the bladder, may be productive of this displacement; the former pushing the cervix forward, the latter, the fundus backward. I have seen a few cases that might be fairly attributed to this; but in these, anæmia and general enfeeblement also play an important part, and are frequently present in those cases.

With these facts before us, one asks, What special weakness does parturition produce that predisposes to this ailment? Before answering, we recall to our minds the lower diaphragm, for there is a pelvic diaphragm as well as a thoracic,— the one limiting the abdomen below and the other above. The pubo-obturato and ischio-coccygeus, covered over by the recto-vesical fascia and peritoneum, form the pelvic diaphragm in both the male and female. This pelvic diaphragm is perforated by different structures in the male and female, and herein is the weakness of the one made manifest.

Both are perforated by the rectum, but the passage of the vagina through the diaphragm, although at quite an obtuse angle, and with its walls in close apposition, weakens the pelvic flow; at least one can understand that it is an additional source of weakness.

For practical purposes, remembering how the Levatores ani skirt the bony pelvis, how they become united at the middle line almost throughout their whole concavity, and how they support and strengthen the position of the genito-urinary organs, throwing prolongations down and around the vagina, which pass through or between them, will enable one to more readily understand the relative position of the parts in the norm.

Some short distance (1½ inches) above the vaginal outlet, the posterior

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wall of the vagina and the anterior wall of the rectum are in close proximity. From this point downwards the walls diverge, — the vagina forwards and the rectum backwards, — until at their outlets the distance is nearly one inch — this is the perineum, and forms the base of the so-called triangle known as the perineal body, the importance of which in preventing displacements, prolapsus, etc., has been somewhat overestimated. A complete perineal body will neither prevent retrodisplacement nor prolapsus. I will not say, however, but what it exercises a coöperative part in the prevention of displacement and prolapsus of the uterus. The attachments of the uterus to the bladder (and thus indirectly to the pubes), the attachments to the sacrum, by the utero-sacral ligaments, together with the support from the pelvic diaphragm previously alluded to, play the most important part.

It is somewhat unfortunate that the term "ligament" should be still applied to the uterine supports. Anatomically or physiologically, they have little in common with ligaments proper. When one contemplates their function, he finds they give unlimited motion. They stretch and give, in process of time, to an almost unlimited extent. They all contain muscular fibres and elastic tissue, besides the reflection of the peritoneum. The peritoneum, however, is too thin and fragile and delicate to exercise any effect, by way of what is called ligamentous control, either of keeping the uterus in place or preventing displacement; so we find, in addition to the muscular diaphragm covered over by fascia, the subperitoneal tissue, the main support of the uterus.

It stays the uterus, as one might say; the uterus occupying the centre of the pelvic cavity, and these various musculo-cellular processes acting upon it as so many lines of tension. There is, therefore, a large amount of latitude in the position of the uterus, and which is also materially influenced by the empty or distended condition of the bladder.

In speaking of the infrequency of retrodisplacement in the unmarried and the sterile, and the frequency in those who have borne children, it was alluded to that the cause must be looked for in, and is, indeed, closely related to, the puerperal condition. When one considers that the uterus at the full period of utero-gestation weighs some ten or twelve times as much as the unimpregnated uterus; that the walls are not only heavy, but soft; and that the uterine supports and tissues have all been stretched to an enormous extent, — the wonder is that nature can ever restore all those parts to almost their normal condition. That a uterus of twenty-seven ounces, in the short space of five or six weeks, is reduced to one of two and one-half to three ounces, is quite amongst the wondrous things of nature.

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Anything, therefore, that interferes with muscular disintegration — the rapid removal of the products of disintegration — may, in an indirect manner, more or less predispose to displacement. Hence, as a cause, we often find subinvolution present in those cases, *itself* dependent upon general want of nutrition, associated with feeble health. This is the very condition in which the stretching produces loss of tone of all the soft parts, — uterine ligaments, vagina, and Levatores ani muscles. Add to this a frequency of pregnancy and parturition, with, perhaps, damage to the perineal body, and you have all the conditions present which readily eventuate in the displacement. Occasionally, in the unimpregnated, we have defective menstrual involution present, — dependent, possibly, upon a generally enfeebled condition. Then, in two or three cases in my experience, retrodisplacement has seemed to have been caused by a disproportion between the uterine body and neck.

When the cervix has grown quite beyond the normal length, it bends forward, following the inclination of the vaginal canal; and, in doing so, has some tendency to tip the fundus backwards. It is beyond the purpose of this paper to go into all the causes in detail; but having alluded to a few, and more especially to the puerperal condition, and having charged that condition, under certain circumstances, with the responsibility of the great majority of cases of retrodisplacement, let us consider the possibility of limiting the frequency of those cases. From the time of impregnation the function of all the organs should be kept in a state of proper activity, and daily exercise in the open air may be looked upon as one of the most important requisites for the pregnant woman. In reference to the child-bed state, it is questionable if the almost universal custom of tight bandaging is productive of any good; if, indeed, it is not productive of harm.

For a few days a moderately tight and well-fitted bandage, with a soft and somewhat elastic pad, placed above the uterus, and not in front of it, will conduce to the ease and comfort of the patient, more especially if the hips be well embraced. After that time, unless the bandage be just sufficient to support the abdominal walls, it is more than doubtful if harm is not produced, and the softened and heavy uterus pushed downwards and backwards. The patient should not lie wholly on the back, but should change from time to time to either side, and should not assume the upright position until near the end of two weeks. I think we can charge too early rising among the not infrequent causes of the weak backs which a subsequent examination reveals, as being caused by subinvolution and displacement. Particularly after abortion should we be most careful to keep our patient in bed, remembering that the uterus here returns but slowly to its natural state. It lacks the stimulus of lactation, and the draw-

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ing of the breasts, which is well known to produce by reflex action a contraction of the uterine fibres.

Abortion, with or without the aid of the profession, is alarmingly common. A widespread error, not alone amongst the ignorant, prevails, that a miscarriage at four or five weeks is simply a heavy monthly. Either by letter or in person one is so often consulted and requested to give something to bring on the monthly periods, that one wonders if these applicants do not consider the practice of an abortionist as part of our ordinary duties, to be arranged for by them, and generally on the "cash-on-delivery" basis. But these nefarious practices are not alone confined to the professional abortionist; but unskilled hands, on their own persons, with a common catheter or other instrument, produce like results. These cases get up too soon. Some never go to bed, — in some cases for purposes of concealment, in others through ignorance; and, in any case, they run great risk of subinvolution and retrodisplacement. I do not wish it to be understood that all cases where, by accident or inflammatory action or other causes, the proper involution of the uterus has been delayed, we meet with retrodisplacement; but in quite a majority of cases will it be accompanied by a history of this kind. Quite a large number of cases of retrodisplacement follow abortion. Frequency of this ailment is also noticed in those women who have frequent labors within a short period. The relaxed and want-of-tone condition brought about by these frequent labors predispose to this displacement. In these cases, beyond attending to the general health, keeping the system in the best possible condition (as hereinbefore indicated), one cannot advise much; but I feel satisfied that it should be the rule, instead of the exception, that the physician should feel that his responsibility does not cease until he knows positively that involution has taken place, and that the uterus is in its proper position. In this age of preventive medicine, — this age when the avenues leading to diseased conditions are blocked on the right and on the left by the thoughtful physician, why should it not be deemed a dereliction of duty for the medical attendant not to require the young mother to come to his office some six or eight weeks after accouchement; or, if necessary, visit her at her own home, to satisfy himself of her condition?

I feel convinced that the work of the gynæcologist would materially lessen with the opening up of this field of preventive medicine. It is a well-known fact that, in the early, and sometimes in the advanced, stages of retrodisplacement, one may have little or no symptoms manifesting themselves. For, not only may one have retrodisplacement, but rectocele and cystocele, with procidentia uteri, and no symptoms produced thereby other

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than mechanical inconvenience. While, again, one meets with cases of but slight displacement, with very pronounced symptoms, — pain in the back; dragging pain in the groins, hips, and thighs; bladder and rectal difficulties; distress in standing or walking; and, at times, an almost inability to walk at all, with much weakness and sinking at the pit of the stomach. So that one frequently finds that the gravity of the symptoms may not at all be in proportion to the extent of the displacement, and that over and over again you may find very aggravated symptoms in mild cases, and little or no symptoms in those where one would expect to find considerable distress; and herein the different susceptibilities of patients play an important part. For these and other reasons it is important that the mother should be early looked after, and all pelvic ailments excluded. This would, indeed, be a considerable drain on the time of a general practitioner, but the value of the discipline could not be overestimated.

Sometimes, restoring a displaced uterus to the proper position is all that is necessary. It has not become accustomed to its false position, and does not readily return when once properly reduced. This is the exception rather than the rule, and, in general, some form of pessary for a time is necessary. I need not say that the proper selection and adjustment of a pessary require time and care and patience and study.

The more intensely one studies these cases, the more does he become impressed with their variety, — *their individuality*, if I may express myself so strongly.

In the majority of cases, as far as my limited observation goes, a pessary somewhat larger than necessary is more frequently found in use than one smaller. There is frequently tenderness about the fundus and body, and much experience is necessary to judge whether the uterus should then be replaced and pessary inserted. To one in doubt, tampons of boroglyceride, or glycerine and alum, applied well up against the fundus, with daily hot douches, would be the proper course to pursue. Replacement and retention of the uterus will then in those cases be quickly followed by a still more rapid diminution of tenderness, — the relief is prompt and complete. If tenderness or aching through the hips continue, or the patient appears to be more uncomfortable after the introduction of the pessary than before, it should be removed at once. It is important, after the pessary is introduced, to examine and know that the uterus is properly replaced, for the uterus may bend itself over the upper extremity of the Hodge pessary, and the displacement be aggravated instead of relieved. One should always satisfy himself — first, in the recumbent position, and afterwards in the upright position — that the uterus is properly replaced. If I am in doubt, and there is no suspicion of pregnancy, I pass the sound.

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A well fitted and fitting pessary should never be felt by the patient; at least, the patient should hardly be conscious of its presence.

In speaking of degrees of displacement, and symptoms, I alluded to the fact that we occasionally have marked displacement and no symptoms. Once in a while one accidentally comes upon them, and upon the closest investigation one cannot elicit any information from the patient that would lead one to suppose that she had a displacement of any kind. Now, what shall be done in those cases? I am persuaded that the better plan is to reduce it at once, — that is, if you can at all readily do it, — and to keep it replaced for some time, either with or without a pessary, as the necessity of the case demands.

I do not think there is much room for difference of opinion as regards the general adaptability of some form of the "Hodge" pessary for the displacement under discussion. Exceptional cases will occasionally present themselves where the uterus cannot be retained in place. Four years ago last July I removed the cervix, somewhat beyond the vaginal juncture, and with it a large epithelioma.

Nothing can now be seen in the vaginal vault except the small opening leading to the uterus. This patient had retrodisplacement before, and has had ever since, and I am unable to adapt any pessary that will properly keep the uterus in place — removal of so much of the cervix disturbed the proper balance of the uterus. Occasionally one will also find cases where flexion is so acute that a stem pessary will be of advantage; but the cases are indeed rare where some modification of the "Hodge" will not answer our purpose.

In conclusion, one may hope in the very near future for more light upon the etiology of the disease. The minds of gynæcologists are looking in that direction, and, we trust, untrammelled by any theory to support. That which plays the greater rôle, being better determined, preventive and curative treatment will assuredly follow.

And now it only remains for me to thank you, alike for the honor you have conferred upon me in inviting me to read a paper, as well as the patience you have exhibited in listening to it.

MANY complaints are received, especially from far-distant States, as to the condition in which some numbers of the ANNALS are received, owing to the rough treatment to which they are subjected in the mails. Of course this cannot be prevented by the publishers, as the copies are sent out in good order. If any subscriber has received any numbers in a condition unfit for binding, such copies, if returned to the office of the company, will be replaced by fresh ones.

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THE HYMEN.

BY E. S. McKEE, M.D., CINCINNATI.

In a clinical lecture before the students of the Medical College of Ohio, Dr. McKee gave the following in regard to the definition and varieties of the hymen: —

This interesting organ, termed by the Latins Membrana Virginitatis; by the Greeks, ὑμήν, a pellicle; among the Germans given the various terms, Scheidenklappe, Jungfernschlösslein, Jungfernhaütchen, Jungfernschatz. The French call it Copule or Cypris, the latter term often found in Fountaine. Chaperone meant first a head-dress worn in France by doctors and bachelors of art until the reign of Charles VIII. Later it came to mean an old woman who watched young girls. Now it is becoming to have the significance, guardian of virginity.

We find the following varieties: —

I. The hymen semilunaris, or normal hymen.

II. The hymen circularis, with small central opening.

III. The hymen cribriformis, sieve-like, containing many holes like a water-pot.

IV. The hymen fimbriatus, similar to the fringe-like appendages of the ostium abdominale of the tubæ Fallopianæ. This form is the most important in a forensic point of view, as it may be taken for the normal hymen which has been torn.

V. The hymen imperforatus. This is a frequent cause for surgical treatment, on account of the retensio-mensium dependent upon it. It may prevent copulation.

VI. In rare instances the opening of the hymen is found divided into two parts by a perpendicular bridge from the concave border of the hymen to the meatus urinarius, where it becomes fast.

VII. In some instances there is a variety in which there exists an upper or anterior and lower or posterior opening, with simply a band lying transversely across the vagina. In rare cases we also find a second hymen existing above the first.

VIII. The horseshoe hymen.

IX. The bi-lobate hymen.

Atresia vagina membranacea seu externa is the term applied to the hymen imperforatus. In this we have a thickened, toughened state of the membrane. We should differentiate between atresia interna or complete, which either depends on an incomplete development of the vagina, or

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its entire absence, or a diseased condition of the same from ulcerative processes.

The position of the hymen in the negress as compared to that in the white female has caused much writing pro and con. It has been claimed that it is situated from five to two inches up the vagina, instead of over its orifice. Dr. Turnipseed, of South Carolina, in an article in the "American Journal of Obstetrics," maintains that the hymen in the negro race is not over, but above, the vaginal entrance. He reports his examination of eleven cases, from 9 to 12 years of age, where he found the hymen from one inch and five-tenths to two inches up. This he claimed as one of the anatomical relations given us by Providence to show the non-unity of the races. This is denied by Dr. Hyatt, of North Carolina. He has examined one thousand negresses, and has not found them different from the whites in this regard. (See Plate III.)

REMOVAL OF A LARGE FIBROUS TUMOR.

BY THOMAS H. MANLEY, M.D., VISITING SURGEON, HARLEM HOSPITAL, NEW YORK.

LOUISA R. — Entered hospital in March, 1888, giving the following history: —

She is 49 years old, born in Belgium, was first married when 22; had four children by this marriage and three miscarriages, and during this time had very good health.

At the age of 30 she lost her first husband. After an interval of seven years she again married; but this union has been unfruitful.

Since her last miscarriage has not felt quite well, and eighteen years ago commenced to have severe pain during menstruation. Ten years ago, or rather in the winter of 1878, began to have noticeable enlargement of the abdomen over the region of the womb.

Two years from this she entered the Woman's Hospital of this city, where she says she had a polypus removed about the size of a hen's egg; but she does not know whether it was mucous or fibrous.

The uterine enlargement returned, noticeably, within a year after operation; but owing to this quick recurrence, she was loath to undergo another operation, when she could get no assurance that the growth would not return; besides, as she was in her forties, and was told that her menopause would be soon established, and this enlargement would cease and give her no further annoyance.

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Hence, she went on with her household duties, hoping for the best; but, in the mean time, the tumor continued to grow, and her discomfort and pain increased in proportion with the growth of the neoplasm, and from year to year, latterly from month to month, she found life becoming intolerable.

She had constant pain in the back, with a dragging sensation in the groin; and owing to the immense volume which the tumor had attained when she reached the hospital, abdominal breathing was interfered with, besides the pressure on the rectum and bladder made their evacuation painful and difficult.

She was compelled to rise two or three times in the night to pass her urine, which was voided in small quantities, and with much distressing straining. In order to keep the bowels regular she had to resort to daily enemata.

Her menses came with great regularity every four weeks, in abundance, leaving her always much enfeebled for many days after.

Her general condition was at a very low ebb. She was very much emaciated from this profuse menorrhagia and constant pain; but strange to say, with this state of debility she had a good appetite, but was afraid to indulge it, as food taken freely always added to her discomfort, and did not seem to nourish her.

On measurement, we found the girth over the uterine prominence to be thirty-nine inches, — about as large as a woman in the eighth or ninth month of pregnancy; and she walked with that peculiar gait of a woman nearing confinement, — the shoulders thrown well back over the centre of gravity, and the hips appearing broader than usual.

Like as in the pregnant state, too, the limbs below would swell on little exercise, and the veins became noticeably enlarged.

On vaginal examination, the vagina was found of a deep bluish color, with its veins much swollen on the left side, and a free leucorrhœal discharge bathed the mucous membrane.

The os uteri was found very high up, rather retroverted, and of a soft feel.

After thoroughly irrigating the parts, a cervical dilator was introduced, and the neck, which was not at all shortened, was stretched, after half an hour's delicate manipulation, so that a uterine sound could be easily introduced.

After the cervical canal was opened, the white, smooth, hard, round surface of the growth came into view.

The uterus was now gently pushed down, by an assistant's hands,

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on the outside, and traction by the tenaculum well fixed in the cervical tissues enabled us to bring it a little lower down.

The uterus in this position enabled us to quite readily ascertain the size, quality, and position of the growth, as well as the point and extent of attachment.

With the bent or bowed probe, warmed and oiled, I quite readily, by passing it over the smooth, glistening surface, located the place of attachment, which was found to be on the anterior wall, by a broad stalk, which we estimated was three inches or more in diameter.

Having ascertained so much, the question now was, Could it be safely and effectually removed, or would it be better, owing to her age, — 49 years, when menstruation must soon cease, — to simply adopt palliative measures, and wait?

Here we had a woman with senile changes well marked, — the hair very thin and gray; the teeth all gone; the skin withered, wrinkled, and bronzed; and her whole appearance bearing well the marks of time; and *yet she was* menstruating with perfect regularity.

When it was found that most every remedial means had been diligently applied at home, we decided that no substantial relief could be promised, except by operative measures, with a view of removing or reducing this large intra-uterine growth.

Some authors advise the removal of the ovaries, in order to artificially establish the menopause, hoping thus to at least arrest further enlargement, and, perhaps, induce atrophy.

But our patient was hardly in condition to sustain the shock of enucleation, inevitable in opening the peritoneal cavity; and, besides, it is questionable whether the procedure is followed with any substantial benefit.

It would seem that the course to pursue would be, in this case, to simply throw a strong cord around the pedicle, strangle the whole mass, and remove it. But we found that the walls of the uterus so firmly embraced the whole surface of the tumor, that a probe could enter with considerable pressure only, and that the attachment was high up in the front, at a point considerably above the pelvic brim.

After going carefully through the accessible literature on the subject, and carefully weighing in my mind all the elements of dangers to be encountered by surgical interference, I decided that, after all, though this class of cases nowadays come under specialists' supervision, there was nothing special about the methods to be employed in its removal, or the dangers to be dreaded, than in the removal of a tumor from any other part of the body.

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What concerned us most, was the woman's ability to endure the enucleation of this growth without danger, and would the results be commensurate with the risk?

After the most careful examination of all the organic functions essential to life, we found no evidence of disease; indeed, her whole and sole trouble seemed to be centred in the voluminous, solid swelling, and that her emaciated body and deranged health were due to reflex nervous phenomena, as well as severe pressure by weight.

As to the consequences, after thorough removal, we saw nothing that could cause apprehension.

We were only anxious regarding what might occur in the course of the tumor's removal, — the danger of injury to the womb itself from laceration or perforation, from hæmorrhage, inflammation, or septic poisoning, as we are warned, by even so skilful an operator as Emmet, to be on our guard for any of these in this operation; and, with most commendable candor, he cites three or four cases in his own practice which ended fatally, partly through oversight and mistaken diagnosis; and how many more are there of the same kind, which we would know of if other operators were not so dumb on the report of fatal cases?

The woman was put on the most nourishing and stimulating diet we could provide, and kept in bed for a month.

After this period of complete rest, active treatment was begun.

We commenced by dilating the os with the sponge-tent, changing it twice a day, and keeping the parts thoroughly clean and aseptic by copious douches of a warm, weak sublimate solution.

Conjoined with this we gave ergot in small doses. After the sixth day we found, one morning, something which I have never seen mentioned in the books, and it caused us to desist from further use of ergot. We discovered a ring of superficial slough at the cervical outlet, which was evidently attributable to constant, rigid, and unceasing contractions. The ergot was doing its work *too well*, in not only strangling the tumor, but the dependent tissues as well.

We soon found, too, that the os would only endure a very limited amount of dilatation, — an opening sufficient to introduce the three fingers, but no more. Its tissue was extremely rigid, tough, and unyielding to the pressure of the sponge.

The constant pressure from above, with the relaxation from below, gradually obliterated the cervix; and now we could plainly see the white, glistening surface of the capsule presenting, not unlike the vertex in a normal labor.

The temptation to carry the scalpel through the remaining portion of

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the unyielding cervix, and draw this mass partly into the vagina, was very great; but her exsanguinated condition, and the probability that even a much-enlarged outlet would not be ample for its passage, deterred us; besides, with a very short stalk, it could not be accomplished without the uterine wall being pulled down with it, and producing inversion. Under the circumstances, the most feasible way to rid the uterus of its troublesome tenant seemed to be to displace it piecemeal; and a tedious, troublesome, and dangerous undertaking we found it. The mass seemed perfectly bloodless. We could plunge the scalpel in to the handle without the loss of a drop of blood. It seemed that the ergot had thoroughly destroyed its vitality.

The capsule was divided, and the work of evacuation began, passing into the opening a heavy lion-jawed forceps, and tearing away the tumor in pieces, sometimes small, and at other times in large chunks nearly as big as the hand.

A little was removed each day, carefully watching the patient's general condition, and never using anæsthetics at any time during the course of treatment. The second week after detachment had commenced, it was evident that there were parts of the growth undergoing suppuration and gangrene, for the discharge from the uterus was copious, and of a vile, unbearable odor.

From the start, irrigation was kept up, and the parts thoroughly drenched three or four times a day; and as the mass was reduced, a long, flexible tube was carried up toward the fundus, so that the antiseptics could act on every portion of the uterine surface.

From day to day, as portions of the growth presented, they were torn away with the forceps, care being taken not to do too much. It was found after a time that less and less force was required in removing this diseased tissue, till at the end — covering a period of more than one month in its removal — large pieces came away spontaneously.

The womb contracted down well, with the reduction of its contents, till the whole had come away.

During this long, tedious ordeal, the patient bore herself with marvellous resolution, which no doubt contributed much towards the successful result.

Constitutional disturbances of the gravest kind developed during treatment. Her temperature one day went up to 104°, and she was exceedingly weak; but, fortunately, at no time did she vomit, and she took nourishment and rye-whiskey freely throughout.

On examination of the portions of the growth removed, we found them composed of dense fibrous tissue, intermixed with connective tissue and unstriped muscular fibre, the latter predominating; all more or less

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interlaced, without any definite arrangement, in bunches of different form and size. Under the most careful inspection, blood-vessels were found very small and scarce. Cells, like those in normal fibrous tissues, were found in small number, but most numerously about the blood-vessels. In form they were minute, spindle-shaped, fusiform, and round; the latter having processes varying in length, which communicated with processes of neighboring cells.

It was found, then, that this was a homologous growth, classified, according to Billroth, as a myo-fibroma.

Our patient made a slow but complete recovery, leaving the hospital after a stay of four months; the bladder trouble having entirely disappeared, the appetite good, and her general strength greatly improved, and enjoying sound sleep; the only unpleasant sequel of the tumor's removal being a phlebitis of the saphenous vein of the left side, of a very obstinate character, — something which I do not see mentioned by any contemporaneous author; hence I presume it a rare complication. I had not seen the woman from the time she entered the hospital till one week ago, when she called on me.

She gained forty pounds in flesh, greatly improved in appearance, and reports herself as never having felt better, except for this phlebitis, which interferes with her walking, unless the limb is firmly bandaged.

This latter trouble developed coincidently with the operation, but what the pathological connection is, I am unable to explain.

Though now in her fiftieth year, she menstruates regularly, and did all the time in hospital.

I report this case with a view of illustrating how completely health may be shattered and life itself threatened by a growth, intrinsically benign, and the many difficulties which we must be prepared to encounter, and also to emphasize my views on the question of those cases being dealt with by the general surgeon.

The conservative, intelligent surgeon is guided by the same principle, whether he is doing a lithotomy or cutting out an ovarian tumor; and why he should be warned off the domain of gynæcological surgery is not easy to understand.

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PROF. VERNEUIL ON PARTIAL AMPUTATION OF THE UTERINE NECK.

HORATIO R. BIGELOW, M.D.

AT a meeting of the Surgical Society held in Paris on Oct. 17, 1888, Prof. Verneuil read a most interesting paper on this subject, which I have much pleasure in sending to the ANNALS.

Two operations for cancer of the uterus are now in vogue: —

1. Complete hysterectomy.
2. Partial hysterectomy, or amputation of the neck.

Of these two methods, we owe the first to Germany. Up to 1884 it received but little favor in France, but at this time the observations of d'E. Beckel, and of Demons, of Bordeaux, created another departure, and now this is the only operation which finds favor with the Surgical Society: a proof of this may be found in the bulletins of the Society and in the transactions of the congress. On the other hand, the second method finds few partisans outside of our president, M. Polaillon, and myself. Nevertheless, it has great advantages. During the month of June, 1888, I broached the question, and in 1884 I published in the "Archives Générales de Médecine," a brochure entitled "Amputation of the Neck of the Uterus with the Linear Écraseur." To-day I have collected all my papers anterior to those there mentioned, and it is these results which I wish to offer as the groundwork for a discussion. My first series, before 1884, comprises seventeen amputations of the neck of the uterus for cancer. These seventeen operations cover periods, from the date of the operation, of nineteen months, either up to the death of the patient, or to the time when they went beyond my notice. This list is, without doubt, faulty; in proof of which I cite the following cases: A woman was reckoned in this list as free from return for three months, whereas I now find that she lived thirteen months; another lived five years and one month. These two cases give a total of seventy-four months to be added to the three hundred and twenty-three months, which is the totality of the seventeen patients on whom partial amputation was employed. This gives a percentage of twenty-three months for each case of the first series. The second series, since 1884, covers five cases in which calculations made upon the same basis as in my first series give as follows: Forty-three months, forty-three months, forty months, seventeen months, and three months, — or a total of one hundred and forty-six months, or twenty-nine months as the average for each case. In my last

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two patients the actual condition is perfect, — there is no evidence of return. The first two cases still live without presenting any signs of a local return; but they present evidences of a grave general disorder, which leads me to fear a general distribution of the disease and speedy death. The third case had a return of the disease after a short time. The average of twenty-nine months of this second series is still inferior to what it should be, but much superior to the total of the first series. In the first series the average was injured by a death on the third day, and by some incomplete operations comprised in these statistics. I observed, among these twenty-two cases of amputations of the neck for cancer, nine local returns. Properly speaking, eight of them were a mere continuation of the disease, only one appearing later. In twelve other cases, the place remained free from all trace of cancer; and this was verified twice, up to the time of death (one in seven years, and one in seventeen months), and five times up to the date when the patients went out of my notice. In three cases the disease reappeared after three years, ganglionic disease appeared in four cases, and in the fifth, the seat of the trouble was doubtful. I will also add that in twelve instances I was justified in supposing that an amputation of the neck would cure the uterine disorder. There remains the case of *ganglionic return*. But even here it made no difference which operation was made use of. In this important question of *recidives*, the key of the mystery is not in the uterus, but in the condition of the peri-uterine tissues; and these tissues are beyond the reach of the surgeon. It only remains for me to add, that partial hysterectomy is an exceedingly simple operation, and by reason of the great security to the patient, the surgeon should always avail himself of it in those grave cases which seem to be peculiarly fit for it. By reason of its gravity, total hysterectomy is here contra-indicated: it can be practised logically only when we are sure that it will be complete and radical.

Accidents noticed. — In twenty-six amputations of the neck, four were made for benign growths, twenty-two for malignant neoplasms. Of these four, one ended in death, and in the twenty-two, one died of acute peritonitis. The superior peritoneal cul-de-sac, wounded in the operation, was immediately sutured, but this was in 1872, when antisepsis was not generally understood, and the patient succumbed rapidly. Another case suffered from vaginal septicæmia, due to a tampon which was allowed to remain in the vagina, and which was placed there against my directions. The same want of cleanliness and of attention developed two serious cases of pelvic peritonitis; but these got well. In all of the other cases the cure was rapid, and in no other case was an adjacent nicus wounded.

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Total Hysterectomy. — Up to 1884 I had never done a total hysterectomy, nor seen one practised. After that time I assisted at three cases operated upon by MM. Bouilly and Richelot, which means that they were done with all the skill, care, and attention possible. Here are the results: In two cases the operation was easy, the neck was not seriously invaded, the adjoining tissues free, and the uterus movable. A fourth case operated upon outside of my clinic came to me later. Of these four cases, one died from hæmorrhage on the third day; another — the first — had a return very soon after, and died in about five months; the third was apparently in the best condition, the disease was limited, but at the end of a few months it reappeared, and the patient died; the fourth lived a year. Total hysterectomy in four cases gives one death from the operation, two with rapid return, and the other living only about five months and a half.

Amputation of the Neck for Non-Cancerous Disease. — I have made four amputations of the neck for non-cancerous affections, twice for hypertrophic elongation of the anterior lip. In the other two cases I found indications simulating cancer. In the first I made an error in diagnosis; the histological examination made by M. Thaon modified my opinion, and the course of the disease justified the histologist. The second was that of a girl of thirty years, very vigorous, upon whom I operated in March, 1884. She is to-day entirely well. I diagnosed chronic metritis, and this was confirmed by the microscopic investigation of M. Potain and M. Gaucher. Diagnosis of cancer of the neck is sometimes very difficult. One must be careful in reporting cases not to confound *malignant* with *benign* disease. In a case examined in my laboratory, in which the uterus was removed for a supposed cancerous disease, it was found to be a simple case of chronic metritis.

From a study of these cases, I conclude that partial hysterectomy practised, as I have indicated, with the linear écraseur and by the process of double division, is an operation to be commended; that it is applicable to many conditions, benign and malignant, of the inferior segment of the uterus; that this surgical procedure is simple and easy of execution, and can be performed as easily upon the living as upon the cadaver; that, thanks to antisepsis, this bloodless operation entails no danger, — in a word, partial hysterectomy is benign in its sequelæ, and is to be preferred to total hysterectomy.

PARIS, Oct. 26, 1888.

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THE TREATMENT OF IMPERFORATE VAGINA, WITH RUDIMENTARY DEVELOPMENT OF THE UTERUS BY SURGICAL OPERATION.

A CASE BY R. STANSBURY SUTTON, M.D., PITTSBURG, PENN., U.S.A.

SEPT. 14, 1888. Miss A. P., aged 22, never menstruated. Has backache, headache, and pain in the abdomen every month. Her eyesight is growing weak, suffers frequently from nausea, and occasionally, in her monthly attacks, she vomits. Complains that she is never well, and is unfit for work. She is a quiet, gloomy sort of girl, and markedly despondent.

Ex. dorsal decubitus, bimanual. The vagina is short; no cervix uteri is felt. No uterine body is to be felt. Per rectum, neither uterus nor ovaries are felt.

Speculum — lateral decubitus. A dimple is distinguished in the vault of the short vagina, and a small probe enters a narrow canal one and a quarter inches.

Dec. 3, 1888. Returned to-day; says after last examination had a slight show; none since. All symptoms continue, growing worse. Has no inclination to work; don't care about life any more. I proposed laparotomy and removal of the ovary or ovaries, as the case might be. She was willing.

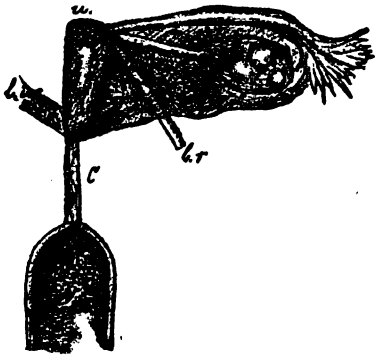
Dec. 5, 1888. Entered my private hospital, having presented a letter from her father consenting to the operation. I discovered that she had written and signed the letter. Some delay followed until I could get the father's consent in proper shape.

Dec. 10, 1888. I made laparotomy, Tait's method, and found a rudimentary, unicornuted uterus. The slender uterine rudiment was about as long and thick as the first two joints of my little finger. It was the right half of the uterus. It was convex on its right border, and slightly concave on the left border. It ended above in a right tube and full-sized ovary, on the surface of which were two ripe Graffian follicles ready to burst. The corresponding broad ligament was small. On the opposite side, the left, no tube or ovary existed, and no broad ligament was defined. Low down toward the end of the uterine tissue there was going off a band of peritoneal tissue which may have been a rudimentary broad ligament or a utero-sacral ligament. Slight pelvic peritonitis was present; it had not been diagnosed. It was on the right side mainly, and was due to the monthly ovarian rupture and discharge of eggs into the pelvic cavity. Her

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recovery was prompt, and she returned home in fine spirits and condition on Jan. 1, 1889, twenty-two days after operation.

Several times in twenty-two years of experience I have met with cases of imperforate vagina, and been unable to define the uterus. No treatment for such cases has ever done any good. When this case has been considered and diagnosed, I decided to deliberately inaugurate, for myself at least, a new method of treatment. I did it promptly, and have cured the women, so far as it can be done. I will follow this method of treating these cases hereafter. In proper hands, laparotomy is for these cases absolutely as safe as any minor surgical operation, and it finishes in a proper way all the treatment required. In my last fifty laparotomies I have had nothing more interesting to me than the relief of this poor girl.



u. Unicornuted infantile uterus.

l. r. Round ligament.

c. Impervious cord, like upper third of vagina.

v. Vaginal cul-de-sac.

l. u. s. Fold of peritoneum, supposed rudimentary ligamentum latum, and sacro-uterine ligament.

A similar structure, supposed to be the utero-sacra lligament, existed on the other side, and is figured as if visible through the broad ligament which on that side is present.

READERS of the ANNALS, who like it, will confer a favor by saying as much to their professional friends. A "winged word" from a subscriber is of more value than many canvassers. An increase of the circulation will permit of the improvement of the journal in various ways.

INFORMATION is solicited, especially from the distant parts of the country, as to the addresses of such book firms or agents as make it a part of their business to deal in medical works.

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EDITORIAL.

In response to many kind expressions of satisfaction with the ANNALS and its work, we take this opportunity to thank our correspondents, and to express the hope that we may be able to retain the good-will and confidence of our subscribers and readers in the future.

A few words as to the scope and object of this journal may not be inappropriate at this season.

With the progressive evolution of gynæcology, many cases which were formerly sent to specialists are now treated, very properly, by general practitioners, while the specialists are tending to become, more and more, surgeons and laparotomists. With the more careful education of the profession which now obtains, and with the brilliant results achieved by operative measures in cases which were formerly condemned to perennial suffering, and to unceasing and ineffectual local treatment, this process of differentiation will certainly proceed further and further.

The palliative and alterative local treatment which was formerly the profound wisdom of a few, has now become the general property of the profession. Post-graduate schools and polyclinics are rapidly spreading knowledge of minor gynæcology, and it will soon be a reproach to any self-respecting practitioner to "know nothing about female diseases."

It is an old saying, however, and a true one, that "a little knowledge is a dangerous thing;" and indications are not wanting that zeal frequently outstrips knowledge, and that deftness in the use of the speculum, the sound, the applicator, and the tampon is more easily and quickly acquired than sound knowledge of pathology and accurate diagnosis of disease.

To the diligent study of the latter subjects, then, we have determined to devote our best efforts; and to put the current progress in these departments before the readers of the ANNALS will be a main object of this journal, not neglecting therapeutics, but always bearing in mind the fact that the indications for medical treatment, as far as the latter is useful, must always be based on an accurate diagnosis.

If, then, the ANNALS can be made thus useful to those who are not surgeons, and do not desire to operate, we hope to make it not less useful to the army of intelligent, active, highly-endowed men who, in the little cities and thriving towns of this great continent, far from hospitals, from libraries and medical facilities, are, by force of ability and opportunity, called on to treat and to try to save the unfortunate women who must miserably waste and perish without skilled help. Surely the future will be

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brighter than the past for the sick and suffering woman, and the surgical skill which is not found wanting in the other emergencies of human life will no longer be denied to her. In operative gynæcology, obstetrics, and abdominal surgery, the recent advance is wonderful, and fraught with the happiest results for humanity. From Canada to Mexico, and from Florida to Oregon, the readers of the ANNALS are working out for themselves the problems of relieving the sufferers under their care; and it will be a matter of profound gratification for us if we can make this journal an aid to these earnest workers, and a bond of union between them.

With this object in view, we solicit the aid of our numerous readers, who, as teachers, surgeons, and specialists, working in cities, with every resource of hospitals and laboratories at their command, are in a position, and in some sense under an obligation, to let their good work be seen that others may profit by it.

We shall be glad to receive any personal correspondence, complaints, or suggestions which may promote the above objects.

ALEXANDER'S OPERATION.

THE recent improvements of this procedure, by which it can be performed without general anæsthesia, and the comparativly slight constitutional disturbance after the operation, when properly done, make it warranted and proper in many cases where patients are miserable or uncomfortable while wearing pessaries. No one in this country has done so much to introduce and perfect this operation as Dr. Kellogg, and in compliance with our request he has explained, as below, some points of his present method of operating: —

BATTLE CREEK, Mich., Jan. 6, 1889.

MY DEAR DOCTOR, — The only original thing I claim in my present method of performing Alexander's operation is my method of picking out the ligament. In the article which he contributed to your journal, Dr. Alexander mentioned that it was his present custom to make an opening in the roof of the canal, some distance above the external ring. In his monograph of his operation he gives credit to some physician — Dr. Imlach, I think — for introducing the method of tucking the surplus portion of the ligament into the wound. By the old method of operating, the ligaments were almost invariably so much injured by manipulation that they would die, and in spite of the best antiseptic precautions would cause suppuration of the wound. To obviate this and at the same time the danger of losing the shortened ligaments, from their slipping away from their fastenings, and thus leaving the patient worse off than before, I adopted the plan of tying the ligaments over a lead plate, as described

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in one of my first papers. But after adopting the method of opening the canal through its roof, I found no difficulty in preserving the ligaments intact. The improvements I have made in the operation are in the direction of simplifying it, and lessening the injury to the tissues. I make the external incision never more than an inch in length, and in thin subjects not more than five-eighths of an inch. The opening through the roof of the canal is a mere puncture with the point of a scalpel, not more than one-fourth inch in length. Through this I slip a strabismus hook, which I crowd down close to Poupart's ligament. Near the floor of the canal I turn the hook inward, engage what tissue I find, and pull it up. A little experience enables one by this method to secure the ligament almost immediately. Even at this point it is often very slender and brittle from degeneration.

This method involves so little injury to the tissues that it is easily made painless by cocaine, of which I use three to five grains in an eight-per-cent. solution. I secure the ligament to the tendon of the external oblique by various methods and with equally good results. The main strain is supported by a silver wire which is passed through the skin, the fascia, the tendon, and proximal portion of the ligament as far in as I can reach after pulling the ligament well out. The suture is then carried on out through the opposite side of the wound, gathering up the tendon and fascia before emerging through the skin. I usually employ two of these sutures. I think them important where ether is used, to sustain the strain induced by vomiting or retching, but doubt the necessity of using them in other cases. In my last forty cases I believe I have used ether but three times.

Very sincerely yours,

J. H. KELLOGG.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

THURSDAY, Dec. 6, 1888.

DR. T. M. DRYSDALE in the chair.

Dr. WM. GOODELL showed a *recurrent intra-ligamentary cyst*, removed without entrance into the peritoneal cavity.

The patient, a lady of 31, at the age of 18 had an ovarian cyst removed by Dr. Joseph Schnetter, of New York, who, in answer to a letter of inquiry, was kind enough to write the following description of his operation: "The cyst had no pedicle, and was attached with a very thick mass of fibrous tissue to the right side of the uterus. This attachment being very vascular, it was necessary to ligature in several portions the parts representing the pedicle, and to sew them into the incision of the abdominal integuments for the purpose of being able to control the secondary hæmorrhage, if any should occur, which in fact soon took place several days after the operation.

"Mrs. ——, after recovery, menstruated regularly through the cicatrix, and had an attack in New York similar to the one for which you are attending her at present. My opinion is, that a piece of the lining membrane of the cyst may still be

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left in the cicatrix, causing an accumulation from time to time, and opening the cicatrix.

"I should have mentioned that, after the opening of the abdomen, the large omentum was found rolled up, forming a large tumor, including an abscess containing almost a pint of purulent matter. This was probably the sequence of two or three tappings of the cyst, preceding laparotomy."

On the 25th of last November, Dr. G. was called to see her by Dr. Thomas C. Potter, of Germantown. She was hectic, much emaciated, and bedridden, and was daily losing strength from a free discharge of pus, which escaped through a fistulous opening in the abdominal cicatrix. This he probed; but the instrument ran upwards and inwards, more in the direction of the kidney than in that of the pelvis. So much blood followed the use of the probe that its use was not pushed very far. Under the cicatrix lay a tumor of some kind, which in front was hard and unyielding, but by bimanual palpation it gave the sense of a very large pelvic abscess. Into this tumor the probe did not enter. The womb was fixed, the fundus being pushed over to the right. The fistula had opened early in 1885, and has lasted ever since. In December, 1886, she had a very severe attack of peritonitis, which kept her two months in bed; and it was after this attack that the tumor first appeared. The hardness of that part of the tumor which lay under the cicatrix, and the sense of fluctuation by vaginal palpation, so perplexed me that I wrote to Dr. Schnetter for further particulars, and his reply, which he courteously placed at my disposal, I just read to you. On December 1 I operated on her at my private hospital, and I must confess that no case ever puzzled me so much. The fistula was first enlarged so as to admit the finger. As this gave no satisfactory information, the incision was lengthened in the old cicatrix to about four inches. This revealed a solid colloid tumor about as large as a cocoanut. It was firmly adherent to the cicatrix and to the abdominal wall in front, and to the left side. When the lateral adhesions were severed, a very large amount of pus escaped from the wound, and the hand now entered into a capacious cavity, wholly shut off from the peritoneal cavity by walls of thick pyogenic membrane, which at the navel looked like a false diaphragm. Into this cavity the colloid tumor hung, as if it were suspended. That is to say, while its upper and right lateral surfaces were firmly and closely adherent to the abdominal wall, its under, or lower, surface, free from adhesions, projected into the fluid of the abscess cavity. A short and slender pedicle, running from the lower end of the tumor, was lost in the pelvic floor of pyogenic membrane. Where this pedicle ended it was impossible to discover, as not a pelvic organ could be felt through this thick membrane; but it was closely adherent to the lower abdominal wall, from which it was detached before being tied and cut. The tumor was now cut open, and its size lessened by digging out its contents with the finger-nail. When it was removed free hæmorrhage occurred from the broken adhesions. This was checked by Monsel's solution and by the free application of vinegar, a pint of the latter being poured into the cavity and splashed about the bleeding surfaces. This large cavity was then treated by the capillary drainage of Mikalicz, viz., by packing it with iodoform gauze. Since the operation the patient has done unexceptionally well, the temperature being always

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natural, and the pulse not more frequent than it would be in a person so reduced as she is.

In reviewing this curious case, it seems to me that the original tumor removed by Dr. S. was a intra-ligamentary cyst of the right ovary; that, as he suspected, a small piece of the cyst wall was left in that portion of the broad ligament, which was made the pedicle, and sewed into the abdominal incision; and that *pari passu* with the growth of this fragment of the cyst, an abscess had formed between it and its capsule of broad ligament which formed the walls of the abscess. The four-inch incision into the abdominal wall did not open into the peritoneal cavity, but merely into a vast pus sac. The tumor was, therefore, a recurrent intra-ligamentary cyst, and wholly extra-peritoneal. The wonder to me is that this lady bore for so long a time so large an abscess without losing her life.

Dr. GOODELL also showed an ovarian cyst which he had removed a few hours before, and in which the characteristic green hue of necrosis was marked. Torsion of the pedicle occurred one month ago, characterized by severe abdominal pains and excessive vomiting. After this the woman gradually failed in health, and lost flesh from chronic blood-poisoning. A few hours before the operation another attack of pain and vomiting took place. The cyst was universally adherent to the abdominal wall, intestines, and omentum. The pedicle, a very slender and short one, was so twisted as to stop all circulation, the cyst being nourished merely by its adhesions.

Dr. WM. GOODELL showed a specimen of what he deemed to be an *extra-uterine fœtation*. A healthy lady, age 33, had been married thirteen years without conceiving. Her catamenia had always been regular up to two months before he saw her, when they were delayed for over two weeks. A few days before they reappeared she was seized with a violent pain — "like cramps"—"in the pelvis, shooting upwards like knives." This was followed by syncope. Hypodermics of morphia were resorted to, and she was left with a pelvic soreness that kept her in bed for several days. During the flow of this delayed period a second attack of pain occurred, analogous to the first, but not quite so severe. In about a week another hæmorrhage came on. A few days later she had a third attack of pain and of syncope, which took place at night. A third hæmorrhage now occurred, which was also followed three days later by a severe pelvic colic. This seized her as she was in the act of getting out of bed. The last attack took place on November 18, and she was left for several days very week and nervous. On the 25th she consulted Dr. G. about the pelvic colics, irregular hæmorrhages, painful defecation, and occasional pains running down the left leg. He found a small womb pushed forward and to the right by a boggy tumor, lying to the left in Douglas' pouch. The diagnosis of extra-uterine fœtation was made, its dangers explained, and an early operation insisted upon. Both the lady and her husband were so shocked by this discovery, and seemed to be so incredulous, that he (Dr. G.) deemed it best for them to get the opinion of another physician. He sent them to Dr. Joseph Price, who confirmed the diagnosis. Very early in the morning of November 29, while she was in his private hospital, a fifth attack of pain of a "bursting feeling" aroused her out of a sleep. This was followed by faintness. At nine o'clock, about six hours after this attack, laparotomy was performed. As soon as the cavity of the abdomen

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was opened, a large amount of black blood, of the consistency of thin molasses, welled out of the incision. Several knuckles of intestine were also forced out, which could not be wholly kept back during the operation. The right ovary was sound, but the left could not be discovered. In its place was found an irregular cavity, within which was found a tumor about the size of an egg, containing within its sac layers of coagulated blood. It was attached to the broad ligament, which was tied and cut off. A very large number of old clots and shreds of fibrin were flushed out of the abdominal cavity by means of a syringe, six quarts of water being used for this purpose. A drainage-tube was put in and the wound dressed with iodoform gauze. So much hæmorrhage occurred later through the tube, that he spent several hours by the side of his patient, fearing it would be needful to reopen the wound. But, by dint of keeping the blood from collecting in the tube, the bleeding points were kept dry and the hæmorrhage ceased spontaneously. The tube was removed on December 3, and the patient has thus far had an uninterrupted convalescence. Dr. G. had not been able to examine the specimen carefully, but Dr. Baldy, who was present at the operation, had cut it open, and he would like him to describe it.

Dr. BALDY said that the history of the case had been rather typical of extra-uterine pregnancy, and the escape of dark-colored blood from the abdominal incision at the operation seemed to confirm this opinion. The mass, which had been shown, was brought to the surface and cut away, after being tied. This was apparently all there was to come away, there being nothing left but a sac filled with old blood-clots, which sac was formed by adherent intestines and uterus and pelvic walls. The mass itself contained a semi-fluctuant tumor the size of a small egg, and which he felt confident contained the fœtus before it was opened. On being laid open it appeared like a large blood-clot, parts of which had undergone degeneration, presenting a mottled appearance. A small portion of normal tube seemed to run directly into this mass, and as it reached it spread its coats out over the mass. The ovary was nowhere to be found. He believed that the mass was blood-clot, but could not explain its occurrence. The fœtus was not found.

On motion of Dr. Baer, the specimen was referred to the committee on morbid growths.

Dr. JOSEPH PRICE read a paper on "Tubal Disease a Primary Cause of Intestinal Obstruction."

In reporting cases, I have repeatedly called attention to the frequency of adhesions occurring between the uterine appendages and some part of the intestines; and my purpose in this brief note is to emphasize the importance of recognizing the danger of obstruction of the intestine, arising from inflammatory conditions of the pelvic viscera. In glancing over the cases I have operated on during the last year, I find that in more than fifteen per cent. there were noted "dense, firm adhesions" between the intestines and uterus and appendages, malignant cases not included. In every case, with one single exception, as far as I could determine from the history, symptoms, and operative developments, the inflammatory conditions causing the adhesions originated in the uterine appendages. I do not intend to discuss the pathology of inflammations in the pelvis, nor to present statistic evidence, nor to cite

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numerous authors who have recognized these lesions, — as Greig Smithand others, — for the few general observations I desire to make. And first as to the form or kind of obstruction likely to occur. The inflamed serous surface of the diseased tube or ovary coming in contact with a loop of intestine or an edge of omentum provokes inflammation there, and with characteristic promptitude these surfaces cohere. If the process is not severe, and of slight duration, these adhesions may disappear as promptly as they occurred, by the enormous absorptive power of the peritoneum, and hastened by the mild influence of the peristalsis of the bowel. If, however, the inflammation is severe or assumes a chronic condition, these adhesions gain in extent and strength, and give rise to all the variety of conditions classified by Treves as "strangulations by bands." In most cases where these adhesions occur, there is a history of constipation. It is probably due as much to the pain caused by defecation as to interference by the condition. Again, the pain is often so great as to mislead the physician into thinking that a more virulent inflammation exists than really does. But the pain is not always proportionate to the amount of mischief. I have seen cases in which a mere omental adhesion has caused most agonizing pain; for instance, I recently saw a case in consultation, — a woman who had had the appendages removed for backache some time before, and who suffered excruciating pain, especially on defecation. In this case the only lesion found was the omentum firmly adherent to the original incision. The omentum here was much elongated, and the transverse colon was dragged below the level of the umbilicus. In like manner I have seen the omentum adherent over the entire pelvis, dragging the transverse colon so out of place that a twist or kink of the bowel could be very easily formed. It is not at all rare to find the vermiform appendix glued fast to the uterine appendages, while almost any loop of the small intestine may become adherent to the inflamed pelvic viscera. As I have said, these adhesions vary in extent and density, from those that will tear like wet tissue-paper to those so well organized that it requires the scissors to release them; and it is not rare in pus cases for the bowel to be almost gangrenous about these points of adhesion, and in fact to tear through. That adhesions do not cause complete occlusion at the time of their formation oftener than they appear to is no reason for regarding them lightly, for Mr. Treves tells us in the series of cases he studied, that the average duration of the interval between the causation and the obstruction was three years, the shortest period being five weeks, and the longest twenty-one years. In view of these general considerations, it is hardly necessary to insist upon the release of the intestine wherever and to whatsoever extent adhesions exist. For if the surgeon leaves adhesions when he closes the abdomen, he leaves a probable cause of future serious trouble. Sonis reports a case in which an ovarian cyst when emptied by the trocar so dragged upon an adherent bowel that intestinal obstruction developed. I am prone to believe that some of the deaths from intestinal obstruction after operation are due to leaving old bowel-adhesions undisturbed.

Dr. WM. GOODELL said that his experience in ovariotomy led him to say that it is a mistake to postpone the opening of the bowels to a late period. He used to follow the old plan of not giving a cathartic until the eighth day; but he was confident that he had had death result from this practice in consequence of the formation of intes-

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tinal kinks from adhesions, making it impossible for the bowels to be moved. He now almost always gave an aperient or an enema on the fourth day, and earlier if any symptoms such as vomiting and tympanites present themselves.

Dr. B. F. BAER said that up to a few years ago he had also followed the plan of keeping the bowels confined after laparotomy, but now he had them moved on the second or third day — rarely as late as the fourth day. That good plan of quenching the thirst by allowing a pint of warm water to flow into the rectum, facilitates the passage of flatus and fæces. He thinks it a mistake to give opium, as was formerly done. Intestinal obstruction was likely to result, as well as adhesions. But this question must be settled by the requirements of each case. He had a case four years ago in which very serious collapse occurred at the end of the second day. Stercoraceous vomiting occurred, and large quantities of flatus were passed by the mouth, but none by the anus. These symptoms were thought to be due to obstruction, and reopening was considered, but not done. The patient recovered, although she did not pass flatus for five days. Should such a case occur again, he would open the wound, and would have the endorsement of most operators for so doing. Large doses of salines are advised in such cases, but he wondered if there was not some danger of rupture of the bowel in these cases of adhesion after serious operations, and he related the following case: An ovarian cyst was closely adherent to the large intestine for a considerable distance. On the evening of the third day symptoms of a septic peritonitis developed: a large dose of Epsom salts was given. The next morning the general condition was better, but he found that liquid fæces was flowing from the wound. He reopened the wound, and tried to find the point of rupture and close it with sutures. Even after having enlarged the original opening, the ruptured point could not be found, on account of its depth in the pelvis and the amount of lymph thrown out. He then closed the wound, without drainage, but freshened the surface of the drainage-tube tract and closed it, hoping that the freshened edges would unite. In two days fæcal matter again appeared, symptoms of collapse developed, and she was expected to die. She, however, finally recovered. The fistula has entirely closed. The lesson he learned from the case was, that when rupture of the bowel occurred under similar circumstances, the best plan is to let it alone. Dr. Price had referred to two cases where he reopened the abdomen for pain and found the omentum adherent to the line of incision. It is unfortunate that we do not know of some means to prevent these adhesions, but it is a wonder that they do not more frequently occur in the line of the incision and to the raw surfaces left after separating adhesions. He knew of no better way to prevent this accident than by the early use of laxatives. Probably much of the pain complained of after operations is due to adhesions; and it is unfortunate that we should be called upon to reopen the abdomen in order to release them. Would it not be wise to give Nature time to adjust matters, since there is danger of the formation of other adhesions from the second operation?

Dr. WILLIAM L. TAYLOR read a paper on "Fixed Uteri."

In looking over my case-book I find the remark "uterus fixed" so often noted, so often helplessly, but I trust not hopelessly, underscored, as much as to say "here again," that I fain would ask how many of these cases were in their incep-

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tion recognized as cases of peritoneal inflammations. In a number the note is made, "patient had attack of inflammation of bladder." "Inflammation of the bowels" has been of alarming frequency, whilst "congestions of the liver" makes me wonder at the special degree of sensibility of that organ in women. In one case, in which there was eventually a fatal relighting of a former peritonitis, the original trouble was noted as an attack of "wind colic of the bladder." If these attacks of peritonitis with their resultant lymph-deposits are so grossly misnamed, is it not more than likely that the abortion, or at least the curative treatment, is as far afield? In a series of cases where the lymph-deposit seemed to be the most diffused, a positive history of an active and acute inflammatory trouble could not be obtained. There was only the history of a continued abdominal pain and tenderness, dating from an abortion, from heavy lifting, seldom from normal labors, and presumably never from gonorrhœal infection. Seldom — I might say never — have I had perfect success in my efforts to trace the cause to this infection. The history of the husbands as to the existence of gonorrhœa or gleet at the time of commencement of pelvic trouble is, in the vast majority of cases, worse than uncertain. In several of the subacute cases the only ascribable cause appeared to be indirectly, if not directly, the effort to prevent conception. Freedom from the possibility of at least paternal cares leads to an amiable weakness, and coition follows coition in quicker succession than the law of conservatism would recognize, and, plus the menstrual congestions, which now even anticipate, without the restful periods of pregnancy and lactation, congestion and inflammation of the peri-uterine tissues follow. That this is as immediately the cause of the fixed uteri, the thickened and enlarged ligaments and tubes and tender ovaries as is gonorrhœal infection, even in prostitutes, I am inclined to believe. Where the deposits of lymph were more localized or larger in quantity, seeming as if it had been poured out quickly and had by gravity centred itself around the uterus, there were the histories of acute, well-marked attacks of cellulitis or peritonitis. The causes were difficult labors with badly lacerated cervices, these lacerations extending through into the cellular tissue, and also criminal abortions. In these cases, how often traumatism and how often septic poisoning was the exciting cause, it is impossible to say. Catching cold while menstruating, falls, and various other accidental causes, were among the number.

The average physician, as soon as the patient is up out of bed, shakes himself by the hand, and says, "I have cured my patient." But he hasn't! There is still the important sequel to deal with, — the lymph-deposit. In fully three-fourths of all the cases the body of the uterus has become fixed in retroflexion even in multipara. Just as soon as the uterus feels the stimulus of congestion or inflammation of surrounding tissue, it becomes turgid and heavy, and sinks decidedly lower in the pelvis, until the cervix is near the vulvar orifice, and following the curve of carus, the fundus is retrodisplaced. Here it is, as it were, frozen in, fixed immovably. All around it is a mass of inflammatory lymph, becoming more dense and resisting as organization advances. In the centre of this the sound probably indicates the uterine body, with a measurement of three and one-half inches. The cavity is tender and the cervix softened, congested with venous blood. Now this deposit varies greatly in quantity as the inflammation has been, by judicious treatment, or

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by nature alone, limited, or been allowed to involve a great extent of peritoneal surface. The possibility of determining the amount of lymph-deposit and the degree of fixation by bimanual examination, seems to me to be one of the few certainties in gynæcological practice. A uterus which is low in the pelvis, and which cannot be raised to the normal line, and a fundus which is retroflexed and cannot be reposited, with the other evidences bimanually of thickening and deposit, cannot but point to the certainty of previous inflammation. A sterile uterus and a fixed uterus seem to be almost synonymous. The ovaries and Fallopian tubes have become merely painful spots, and useless for the purpose of conception; and should the patient conceive, the uterus seems unable to enlarge, and expels the fœtus for want of growing room. When I find a young married woman with evidences of a former peritonic inflammation, I am very guarded in my promises for her future fertility. Backache, ovarian pains, and headache; metrorrhagia or menorrhagia; profuse leucorrhœa; bladder and bowel irritation; and a thousand and one nervous phenomena — mark a very unenviable period in the patient's life. Hysterical, fretty, and worrisome, she is a burden. The ovaries have prolapsed with the uterus, and are imbedded in, and virtually strangulated by, surrounding lymph. Menstruation, which before was painless, now gives place to severe dysmenorrhœa. The pain is different and more wearing than that due to simple stenosis. It begins several days before the menstrual flow as a more or less steady, throbbing, sickening pelvic pain, extending down the inside of the thighs. As soon as the flow is established, this pain gradually gives way to the never-ending backache and pelvic dragging. Sometimes there is premenstrual nausea and vomiting, due undoubtedly to ovarian pressure.

In nearly all the cases there is fungoid endometritis as a result of the continued uterine congestion. Hence the metrorrhagia or menorrhagia, notwithstanding which the uterus seems to become more congested and more tender.

The need of shortening these attacks of pelvic peritonitis, aborting them if possible, can only be appreciated by those called upon frequently to treat the sequellæ. In traumatic cases where there is no reason to suspect septic influence, as soon as the usual symptoms of peritoneal trouble present themselves, the lower bowel is thoroughly moved by an enema of sweet-oil and turpentine; the patient's hips are then decidedly elevated by pillows or by elevating the foot of the bed so as to, as much as possible, drain off the pelvis, and also to keep the pelvic organs from prolapsing. From 20 to 30 grs. of chloral by the bowel, and from ⅛ to ¼ gr. of morphia hypodermically, are given. A thin flannel binder is applied loosely, and on that, over the abdomen, an ice-bag is placed and kept there, not one hour, but for hours. A febrifuge is given, with the ice-cap and antifebrine, if the temperature reaches 102°. Where there is evidence of septicæmia, with the clammy skin, the sunken eyes, the central heat, I have the bowels thoroughly evacuated by divided doses of calomel and soda, and administer quinia in 10-grain doses every four hours, until my patient complains of tinnitus. To the abdomen I apply a large turpentine stupe, followed by a light poultice. The hips are elevated, and if there is positive need for an opiate, a vaginal suppository of Ext. Opii Aq., grs. iii, Ext. Belladon., grs. ℥ss, is used. If these attacks are thoroughly treated, the amount of lymph thrown

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out is small, and probably will be absorbed almost as rapidly as it was thrown out. But we meet a case which was treated by "the other doctor around the corner," and the uterus and its appendages are, as before described, imbedded and immovable. Now, what are we do? The great object is to get rid of as much of this effused matter as we possibly can. The older and more thoroughly organized this becomes, the less chance there is of rapid and complete absorption. So the moral is, commence early. It is going to do one of three things, — undergo absorption, break down and form pelvic abscess, or become organized, acquiring an adventitious circulation. When I meet a case of recent, or comparatively recent, deposit, where I can have my directions enforced, I am confident of success. I commence treatment by correcting the digestive tract, getting the stomach, liver, and bowels in better condition, and surface circulation is stimulated by warm baths and frictions. I then give the corrosive chloride with the iodide, commencing with small doses frequently repeated, and gradually increasing the dose and lengthening the time. In the use of the bichloride and iodide I have had marked success, much greater than in those cases treated with iron and bitter tonics, the same local treatment being used in both. Locally I rely upon the abdomino-vaginal galvanic current, and gentle or more decided uterine massage, as there is great or little tenderness. This uterine massage I prefer in cases of long standing where the tenderness has disappeared; but still used carefully where there is tenderness, I find it beneficial. Every other day, or twice a week, I make steady pressure upon the fundus of the uterus with the index finger of my left hand in the rectum and upon the cervix and body of the uterus, with the right index finger in the vagina. This pressure I keep up for two or three minutes, gradually trying to force the body upwards and forwards. Then efforts at lateral movement for the same length of time. This massage I follow with the continued galvanic current, using the abdomino-vaginal method. For the breaking down of pelvic lymph I have not used electro-puncture, preferring the slower and as certain absorption by the stimulation of pelvic circulation. Where there is tenderness I use the positive pole in the vagina and the negative over the abdomen for the first three or four applications, and it is marvellous how speedily this tenderness disappears. I then reverse the poles, using the negative with a ball or small crescent-shaped electrode in the vagina. These *séances*, including the massage, last for about fifteen or twenty minutes; the strength of current averages about twenty-five to thirty milliampères. After this is over, I frequently pack the fornix with wool, introducing a small ring pessary to keep the wool as much as possible in position. After I gain a certain amount of mobility, I introduce a Smith-Hodge pessary, small at first, increasing to a more suitable size as the uterus rises to the normal line. Tincture of iodine to the fundus of the vagina, flying blisters, and the hot-water douche I have tried faithfully with uncertain success, but not so often since I have found such positive relief from galvanism. In the cases of much longer standing, I acknowledge that all I can get from galvanism, sometimes, is the relief from pelvic pain. Can we get anything more from other treatment? Out of a series of twenty cases, in which galvanism and massage were employed for the purpose of relieving pelvic soreness and pain and inducing mobility of the uterus, twelve cases were discharged after an average of twenty applications each, sufficiently improved to need

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no after-treatment; four are improving under treatment; and four disappeared after one to five applications. In over one-half of these total cases prior treatment had been faithfully tried before galvanism was resorted to.

Dr. T. HEWSON BRADFORD read "Notes of Gynæcological Cases treated by Electricity."

Recently so much matter has been brought before the profession regarding the use of electricity in gynæcology, that I wish to present to the society some notes respecting the practical application of the battery upon patients in my work at the gynæcological out-patient department of the Pennsylvania Hospital. The number of patients so far is small, but covers a large field in diseases of women. In each case I have marked the results of the use of the battery and the extent of the time applied. In the beginning the treatment was with the acid portable battery of thirty cells, used in the hospital wards; but later the Board of Managers kindly provided a seventy-cell Law battery, with controller and milliampèremetre. The abdominal dispersing pole is the clay electrode of Apostoli, and the intra-uterine electrode is the platinum sound insulated with shellac, as devised by Dr. G. Betton Massey. The efficacy of the work is largely due to the services of Dr. Massey and Dr. Robert H. Hamill, both of whom are associated with me in the department.

CASE I. — Stenosis of cervix. Æt. 30 years. No children. No miscarriages. Menses irregular, scant, and with some pain. Os, pin-hole in appearance. July 14, Simpson's sound introduced with great difficulty, and positive cauterization of eighty milliampères applied for four minutes. Treatment continued at stated intervals until September 15, with a total of six applications. She menstruated September 22, normal induration, less painful; and again on October 26, when flow was very free and pain very slight. She considers herself entirely well, the last visit being November 13.

CASE II. — Antiflexion. Æt. 21 years. Single. One week before she came to us she lifted a heavy weight, and at once felt a severe pain in the back, accompanied by a feeling of nausea. Uterus sharply anteflexed. Cavity two and one-half inches. First visit October 30; sound introduced and fundus brought to normal position. November 6, positive cauterization, eighty milliampères, two minutes. Patient returned November 8, 13, 20, 22, 24, and 27, and treatment continued with varying strengths and length of application. On the two last-named dates, sound showed uterus in normal position.

CASE III. — Metrorrhagia. Æt. 22 years. No children. One abortion five months before. Menstruation occurred every three weeks lately, lasting four days; excessive in amount, with severe pain. Uterus small and in normal position. Os small. Sound enters two and one-half inches. First visit September 18. Applied positive cauterization, forty milliampères, four minutes. She returned at stated intervals until November 1, and treatment continued. Menstruation, October 1, normal, and but slight pain. Patient returned later, expressing herself well.

CASE IV. — Metrorrhagia. Æt. 45 years. No children. No miscarriages. Ill health has lasted for six years. Menstruation irregular, excessive, and very painful. Locomotion painful and difficult. Uterus enlarged, os patulous, cavity three inches. Ordinary treatment pursued from April 17 to June 7. There then being no im-

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provement, negative cauterization of twenty-five milliampères was given for seven minutes. The following day she felt severe uterine pains, but after these had left her she felt better than she had done for months. The bleeding continuing up to July 7, it was decided to change to the positive cauterization. From this date until October 20, a total of nine applications were made, — varying in strength from seventy to two hundred milliampères, and lasting from one to three minutes. August 23, menstruation appeared and lasted six days; very profuse. November 1, it again appeared, normal in all respects. She returned later, saying she felt entirely well in all respects. A review of this case is convincing that the results might have been obtained by less severe treatment than was used on several occasions.

CASE V. — Obstructive dysmenorrhœa. Æt. 32 years. One child three years ago. No miscarriages. Ill health since last pregnancy. A constant pain in sacral region. Menstruation irregular and painful; slight at first, but afterwards excessive and clotted. September 18, uterus large, but movable; cervix stellate, laceration. Cavity three inches +. Positive cauterization, seventy milliampères, four minutes. Pain followed and lasted until September 20, when it ceased on the appearance of flow. Treatment continued at stated intervals until November 24, when menstruation appeared, lasting four days, with only slight pain on first day. Flow full and normal; only slight appearance of clots. Patient appears entirely well.

CASE VI. — Hyperplasia with dysmenorrhœa and retroflexion. Æt. 29 years. Single. Ill for three years, and has had severe pain in back all the time. Cervix had been removed, but symptoms only aggravated. Menstruation regular, free, and painful. Uterus presents a broad, truncated surface, and is retroflexed; cavity, two and one-half inches +, but broad. Negative cauterization, forty milliampères, five minutes. November 10, positive cauterization substituted for negative, sixty milliampères, four minutes. November 15, faradic current to vagina; retroflexion corrected. November 22, faradic intra-uterine, two minutes. December 4, menstruation; first two days scant, last three days full and free. Less pain than for any time for three and one-half years. Still under treatment. Faradic current used to stimulate relaxed vaginal walls.

CASE VII. — Subinvolution. Æt. 37 years. Eight children. Two miscarriages. Ill since last pregnancy, eighteen months ago. Ten days before coming for treatment had aborted a two-months fœtus. October 4, uterus subinvoluted, os patulous, cavity, three inches +. Treated with tampons of glycerine, hot-water injections, and tonic pills, until October 9, when negative cauterization, one hundred and twenty-five milliampères, three minutes, was applied, producing slight pain. Bleeding continuing, strong faradic intra-uterine currents were used the 18th and 20th and flow controlled completely. October 25, discharged, cured. November 1 still well.

CASE VIII. — Prolapse of left ovary, with adhesion. Æt. 26 years. Three children. One miscarriage. Last pregnancy four years ago, since when pain has become progressively worse. Dyspareunia intense. Menstruation regular but painful. Painful sanguineous discharge for four weeks. Uterus enlarged and displaced to the right; right side very painful; both tubes enlarged. On the left a mass is felt, — apparently a prolapsed ovary, surrounded by exudation. September 2

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bromide and ergot. September 27, drugs stopped. Positive cauterization, forty milliampères, three minutes. October 4, negative cauterization. Treatment continued to November 13, when uterus measured two and one-half inches; mass to left scarcely discernible. Has had pain at times, after application. November 20, faradic intra-uterine application, three minutes. The notes of the treatment of this desperate case, for which abdominal section had been advised by several physicians, shows the care that must be exercised in electrical treatment, and the small currents that are at times best. The case is still under treatment.

CASE IX. — Submucous myoma and suppression of menstruation. Æt. 38. Seven children. Three miscarriages. Five years since last pregnancy. Duration of illness, five years. Menstruation irregular, scanty, and painful; leucorrhœa; locomotion at times painful; cystocele and rectocele; uterus hypertrophied, os patulous, cervix congested, vagina much inflamed. Sound enters four inches and encounters a projection, the size of a shellbark, on the posterior wall. First visit August 9; negative cauterization, fifty milliampères, four minutes, after which she had severe pain. August 16, severe pain in left ovarian region, and uterus tender. August 28, menses, with severe bearing-down feeling, lasted four days. September 1, much pain in left side; treatment continued, varying from positive to negative cauterization, and in strength and duration. September 20, tumor still there; negative cauterization; one hundred and fifty milliampères; uterus measures three and one-half inches. October 30, menstruation on date, lasting six days; cavity two and one-half inches +; projection reduced to a slight roughness. Still under treatment. Pain, after application, due to a six-mile street-car ride after each treatment.

CASE X. — Intra-mural fibroid. Æt. 24 years. One child. No miscarriage. Last pregnancy eleven years ago. Menstruation regular, scant, and painful; leucorrhœa profuse; fibroid uterus as large as an orange; cavity three inches. September 22, negative cauterization, fifty milliampères, four minutes. The same treatment was continued up to November 13, the strength of the currents being increased to one hundred and fifty milliampères. Several positive cauterizations were given. Now the tenderness and purulent discharge is corrected, and the tumor is reduced to two-thirds its size. Still under treatment.

CASE XI. — Large intra-mural and subperitoneal fibroid. Æt. 38 years. Tumor first noted two years ago. A large, irregular fibroid occupies the lower two-thirds of the abdomen; os patulous and difficult to reach; cervix lacerated; menstruation regular, profuse, and painful; locomotion difficult, and feet and legs swollen; nodule of tumor painful. August 14, negative cauterization, sixty-five milliampères, four minutes, which caused, for some days, pain and continuous sanguineous discharge. August 16, positive cauterization, one hundred and twenty-five milliampères, four minutes. Treatment, with negative and positive cauterization, varying up to one hundred and fifty milliampères, continued until October 18, when tumor was an inch or more below umbilicus, and she could wear clothes four inches less in waist-circumference. Deep sulci between nodules. December 4, since last visit has been feeling badly; sickness appeared November 28 and lasted four days, profuse and painful. Every night since last visit she has had a thick discharge, accompanied with pain, similar to those of labor. Kneeling produces large discharge of

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white, stringy substance. Tumor has considerably diminished. It is probable that the shreds noticed by her are portions of the tumor. Still under treatment.

Dr. G. BETTON MASSEY said he had a special interest in watching these cases; and, experimenting to determine the justice of claims that have been made by Apostol and others, at Dr. Bradford's request, I performed the electrical operations for him at his clinic. I think that we had good results in several cases; and if the cases had been summarized more briefly, this would doubtless have appeared more sharply in the case of stenosis of long duration. The application of a few positive cauterizations, at considerable intervals, seemed to result in a complete cure. The treatment extended over several months, but the applications were generally made at intervals of one or two weeks. But it is sometimes difficult to determine how frequently the applications should be repeated. My observation of these cases, and of others in private practice, has been that it is not wise to make applications of more than fifty milliampères oftener than twice a week.

The second case — one of marked anteflexion of the third degree in a young girl, and probably the result of strain — is rather unique. She seems to have been cured by two or three positive cauterizations of fifty to eighty milliampères, lasting over a period of a few weeks. Several months have elapsed since the cessation of the treatment, and the uterus still maintains its normal curve. The idea was, if we had a flexion of the uterus, due to muscular relaxation on one side, the galvanic current would throw it into a spasm and keep it there, and, at the same time, cauterize the M. M., and make the canal more patulous. I believe that the approved electrical treatment of flexion, at the present time, is by the bipolar faradic current to throw the uterus into contraction. I have, however, had no experience with this method. It is difficult to get a bipolar electrode that can be thoroughly cleaned.

The third case was one of acute metrorrhagia, with an excellent result. Case VII. was also one of metrorrhagia. The lesson of these two cases, as has been stated in the paper, is, that galvanic treatment of a surgical nature (over thirty or forty milliampères) is rather harmful in the recently parturient womb. In the seventh case I think there was decided aggravation of the difficulty as the result of three cauterizations. The effect of the faradic current, mono-polar, was very marked in arresting at least two-thirds of the hæmorrhage. The second application was followed by complete arrest.

Case IV. deserves particular attention. It was one of protracted metrorrhagia in an elderly woman, with hyperplasia of the womb, and evidently some endometritis. As was stated in the paper, this case was overtreated. I can recognize a stage in her case, in July or August, and in September, when she was practically cured, as the result of the application of a moderate current. In these months the cauterizations made her worse for a week. She is now entirely well.

Case VIII. was much like one delineated by Dr. Taylor. There was a mass of induration in which, most likely, an ovary was included. The patient has apparently been benefited. It was particularly apparent in her case that nothing but very moderate currents, twenty to thirty milliampères, were immediately beneficial. Whether or not heavier currents would have been beneficial is a question. Even the introduction of the electrode was followed by pain and cramp. Low currents even,

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at times, aggravated the pain temporarily. There has finally been vast improvement. The fibroid cases have been well delineated in the paper. These cases showed a great lessening in the size of the tumors, and an amelioration of the symptoms accompanying them.

Dr. B. C. HIRST thought it was a gratifying fact that we were advancing in this branch of therapeutics. It seemed that for a time we did lag behind other gynæcological centres. He had seen some of Dr. Massey's work. At Dr. Hirst's request he had applied the current at the Philadelphia Hospital on a patient with retarded involution, due to multiple fibroma, with good results. He tried electricity some time ago, but with very little result, because he had, he thought, used too weak a current, and because he did not thoroughly understand the application of electricity in gynæcology. He thought that much of the criticisms of this kind of treatment had been ill-considered. He had just read Mr. Tait's criticism in the "British Medical Journal." Mr. Tait went to Paris to learn Apostoli's method, but when he got there he refused to visit Apostoli. He said that on inquiry he did not hear sufficient favorable reports to make it worth his while to go and see the method applied. This reminded him of the English gentleman who went to the West Indies to see the pitch lake, and on his arrival sent his steward to look at it for him. Dr. Hirst thought that in the future electricity must occupy a very prominent place in gynæcological treatment. With the excellent appliances that our prominent electricians possess, and the skill they have acquired by recent practice, we should accomplish as much in this direction here as has been done in other places.

Dr. J. M. BALDY said that he had never used electricity in his gynæcological practice, for the simple reason that he had not felt competent to get the best results, not being an electrician, nor had his observation of the work of others made him desirous of doing so. He had, however, done still better, — he had put himself in the way of observing the work of experts in this branch of practice. He thought that Mr. Tait's time had been well spent in not going to see Apostoli, — better than his own. Mr. Tait said that on inquiry amongst the patients of Apostoli, he found that there had been so little benefit that he did not consider it worth while to go to merely see the details of the application. He had hunted up the patients and studied them. What Dr. Baldy saw at Apostoli's clinic was entirely negative. The most conservative review of electricity in gynæcological practice that he had seen recently was that of Croom, of Edinburgh. Croom took the precaution of having the applications made by a gentleman specially skilled in electricity, Dr. Milne Murry. He continued the treatment one year, applying it specially to fibroids. He states that his results have been entirely negative. He has seen greater risk to life from the use of these applications than from the knife in the removal of the uterine appendages. There are some details in the application which would strike one, as it did himself, not in the habit of using electricity very forcibly. Apostoli denies that there is pain. Dr. Baldy did not see a patient treated by Apostoli that did not cry out and squirm with pain. The same thing was noted and remarked upon by an English surgeon, who was there at the same time with himself. He had also observed this at the Pennsylvania Hospital, even under comparatively low currents. After the punctures in fibroid tumors, as seen in Paris, there were left nasty, ugly-

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looking, sloughing sores, requiring constant care, that they might not set up a bad septic trouble. Having seen none of these *annoyances* mentioned in reports, he was somewhat astonished.

He had followed with considerable interest the observations made at the Pennsylvania Hospital, but what he had seen had not influenced him to think much better of the treatment. In a number of the cases the patients were made worse. One was a case of papillomatous cyst, afterwards operated on, in which, after talking the matter over, it was decided that there would be great risk in continuing the treatment, as the patient had become so much worse after each of two applications. Another case, the one of pelvic inflammatory trouble, reported in the paper, had, he believed, not been improved up to the present time, and, if anything, was rather worse. One of the gentlemen connected with the clinic told him that he also believed that nothing but the knife would help her. The good results that Dr. Baldy did see were just such results as he was in the habit of getting by free purgation and other treatment. Patients with a pelvic mass will often, after free purgation, come back so much relieved that they will consider themselves cured, and will refuse operation. This is exactly what he had seen from the use of electricity, and nothing more. In regard to fibroid tumors, one of the cases reported had told him that before the applications of the current she had had no hæmorrhage of any account, and that she had not obtained benefit from the treatment, but that her bleeding had become much worse. Subsequently he believed that she had progressed somewhat better. The diminution in the size of the tumor was so little that he could not determine it by the sight and touch. He was still open to conviction, if he could find anything which would make him think that permanent good could be obtained, but that he wanted more than the mere report of cases, — he wanted to see the cases and judge for himself.

Dr. T. M. DRYSDALE had not intended to take part in the discussion, but he could not permit what Dr. Baldy had said to go unchallenged. He had had some experience in this matter, having been working at it pretty steadily for the past three years, and he intended shortly to give his results to the society. He thought that the great mistake in regard to electricity was, that its advocates have claimed too much for it; but it must be admitted that many of these claims had been proven, and its positive value established, by the results of practice. It is certain, for instance, that in some forms of hæmorrhage from the uterus, there is no other agent that will take its place. He had seen it cure metrorrhagia when ergot, erigeron, local applications of iodine, and in fact everything else has failed. Again, he had seen large plastic exudations in the pelvis entirely disappear under the use of currents of electricity. He had used it in only four conditions, — pain, hæmorrhage, plastic exudations, and uterine fibroids, — and experience had taught him that there was a good deal in the manner of application of this powerful agent. He had not adopted all of the methods of Apostoli; for instance, he never punctured a uterine fibroid, believing that the practice is a perilous one, and entirely unnecessary, for without it he had met with at least equal success with those who have used it. In his hands it had proven decidedly successful in the treatment of uterine fibroids, resulting, in many cases, not merely in arresting their growth and checking hæmor-

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rhage, but in their entire cure. One of these cases in which there was a complete disappearance of a uterine fibroid was reported by Prof. Skene at the meeting of the Gynæcological Society at Washington. Six years ago a patient of his removed from Brooklyn to our city, and was sent by him to me. She was suffering from excessive hæmorrhage, the result of a submucous fibroid about the size of a small cocoanut, which he removed by enucleation. She afterwards returned to Brooklyn, and had no further trouble until two years ago, when she commenced bleeding again. After being treated by several physicians she came to him. On examination he found a soft, interstitial fibroid tumor, about three inches in diameter. She could not remain in Philadelphia at the time, but in three months she returned, when the tumor was found to be growing rapidly, while she was greatly reduced by repeated hæmorrhages. In October, 1887, the use of electricity was commenced, and in April, 1888, she returned to Brooklyn, and was examined by Prof. Skene, who found the tumor had entirely disappeared. He could give many other instances, but should reserve them for a future paper.

Dr. JOHN B. DEAVER would ask those gentlemen who have been using electricity in the treatment of plastic exudates, whether the *rationale* of the treatment is not the same as in the treatment of urethral stricture by electricity. In his hands this had proven utterly useless. Dr. Keys has written an elaborate paper in which he condemns it, concluding that it is without benefit.

Dr. JOSEPH PRICE thought it would be just as well if every one would give us their bad results as well as their good. Many have had sad disasters with this method of treatment. He had once seen presented to the New York Obstetrical Society several fibroids which had sloughed out from the cul-de-sac of Douglas. Dr. F. A. Emmet at the time remarked that the good Lord had saved the patients in spite of the treatment. Dr. Baldy has stated what he saw at Apostoli's clinic. When Dr. Massey stated that he had used it from an exploratory and experimental point of view, he nearly struck the key-note of the whole business. He had himself given it a fair trial, but had found it wanting. His experience differed from Dr. Taylor's as regards gonorrhœal infection. He had found, in about every case, a gonorrhœal history in the father. In one case, a blind child had met him at the door, and he removed pus-tubes from the mother. The father confessed to having had the disease twice. This case he could duplicate many times, minus the blind child. He valued the bichloride more for the saving of eyes than for the saving of women; it was rare now that he ever had ophthalmia in children. Dr. Baldy had covered the points in regard to the bowel disturbance. In these cases of pelvic exudate,— he called them pus-tubes, — a saline would often completely relieve them temporarily. A fungoid condition of the uterus is rare. He rarely has to use a curette. The danger of electricity has been dwelt upon by a great number of men throughout the country, and most who have tried it have given it up for some milder application.

Dr. H. A. KELLY said this is a matter of great importance. There is outside the domain of abscesses and big tubes and ovaries a class of cases which still trouble us, and for which the profession has looked with hope for relief from the proper application of electricity, which has not yet had a fair trial at the hands of gynæ-

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cologists. The great claims made by a few men at the outset have not yet been justified, and have been an injury to the whole subject. He had seen some good results, and felt that in a limited number of cases we shall be successful. The caption "fixation of the uterus" is a convenient one, for it is often the first thing that attracts our attention. There are three ways in which fixation of the uterus is produced. One is by eccentric growth. The enlargement of the uterus itself fixes it in the pelvis. He recently performed abdominal section to determine whether or not a uterus enlarged by cancer was fixed by deposits in the broad ligament or the pelvis. Finding nothing, he closed the wound and removed the uterus by the vagina. The second cause of fixation is the presence of diseased tubes and ovaries; remove these and the uterus is free. Outside of these conditions there are cases of dysmenorrhœa where we are apt to diagnose stenosis or endometritis, in which the mobility of the lower part of the uterus is limited. In these cases he has learned a point which he thinks is one of the most valuable he has yet learned in gynæcology. Digital examination reveals a tenderness on the left side; on pressure, there is no marked degree of resistance on the two sides, but we often note the left fornix obliterated or shallow. Determining exactly the nature of the trouble, and proceeding upon a plan of treatment for their cure, he has been able to throw an entirely new light upon such cases. It is to catch hold of the anterior lip of the cervix, draw it down, and then passing the finger behind the uterus, we feel on one side the broad ligament; but ont he other side we now feel what we could not feel before, — a distinct hard line, either in the broad ligament, the utero-sacral ligament, or both. He then employs massage to stretch this tissue. A patient recently came to him with a uterus thus fixed, and the ovary bound down on the left side. By drawing the uterus down and pressing upon the adhesions they were thus gently torn apart and separated; and by the aid of this treatment the patient has been cured of all distress, and the ovary is mobile. He had treated the case for months before by other methods without relief.

Dr. B. F. BAER said he was glad to hear and see the graphic description given by Dr. Kelly, as it supported the position which he had taken before the society at the last meeting. Many of these cases are benefited and practically cured by this treatment, used with other remedies. He finds large retroflexed and fixed uteri more difficult to manage than fixed tubes and ovaries. When it is determined that the tubes are incurably fixed or contain pus, they should be removed. He is a firm believer in the value of hot water as a stimulant to absorption of inflammatory exudate. He has used galvanism, and believes that it is an excellent stimulant to absorption. From what he saw while he was in Europe, he procured a battery of the same pattern as that of Apostoli, and had used it in many cases since his return. He had learned to look upon galvanism as an excellent stimulant, when given in small doses, in cases of exudation, but he questioned whether it was better than hot water, iodine, and massage. It is a powerful and dangerous remedy sometimes, when used in doses large enough to induce electrolysis, especially when puncture is used. Without puncture in large doses great pain is given; and unless the dose is large the process is slow and tedious. He who would hope to get good results from this treatment must use great patience. In a case of interstitial fibroid he had used

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the positive pole intra-uterine. After the second application the hæmorrhage ceased. He began the dose at eighty milliampères and increased it to two hundred. The latter strength caused so much pain and tenesmus, that after a month's treatment, the capsule of the tumor beginning to break down and slough, he stopped it. He then tried to enucleate the tumor, but did not succeed, and the patient died from metritis. His mistake was want of patience in the use of electricity. In similar cases he was using lower strengths and giving more time. The patients are symptomatically improved, but the tumors do not rapidly decrease in size. He had removed by laparotomy a pedunculated fibroid, on which electricity had been faithfully tried by an expert for several months. He thought that the treatment had done more harm than good in this case, as it was subperitoneal and pedunculated. In a tumor of that character, electricity has little or no power, when applied without puncture; and to puncture in that case would have subjected the patient to greater danger than to remove it by laparotomy.

The PRESIDENT. — I do not agree with that. You get electrolysis from the simple passage of the current, even if there is no puncture.

Dr. BAER replied that he did not know the meaning of electrolysis if it was not the destruction of organized tissue by resolving it into its elements; and to get this action a higher power than one would be warranted in using must be applied.

There is another class of fibroids in which the curette for the control of the hæmorrhage is more rapid, safer, and just as efficient, if not more so, than electricity, which he would illustrate with a case. The patient complained of great hæmorrhage and pain. Examination revealed a hard, nodular mass connected with the womb. The end of a finger could enter the os, and the cavity was four inches deep. The cervix was dilated, and a large mass of fungoid growth was removed in five minutes. Iodine and carbolic acid were injected into the cavity. She is cured symptomatically, and the tumors are smaller and more mobile.

Dr. GEO. E. SHOEMAKER thought there was no doubt that the claims made for electricity were exaggerated. However, electricity will contract the capillaries, and lessen the size of any vascular tumor. Any one can prove this by applying, when he has a coryza, one pole on each side of the nose, and passing a mild current. In a few moments the nose will be free. In the same manner it may temporarily lessen the size of the capillaries in these pelvic cases, and so temporarily diminish congestion.

Dr. M. PRICE said that he had only found two forms of fixation of the uterus. One is non-inflammatory, the other bound down by inflammatory bands. It was absolutely useless to tell him that a uterus bound down by adhesions could be replaced. It would be as easy to believe that adherent fingers and toes, resulting from a burn or scald, could be relieved, as that electricity applied to the pelvis could release adhesions of the uterus, when it is all that we can do at times to tear them loose with the finger. In regard to massage, it is absolutely absurd to talk of any patient submitting, who has any decency, to a man fingering her vagina by the week. If there were inflammatory trouble it would do mischief. He had a case where electricity had been used, and where all sorts of applications have been made. He was positive that there was pus. The temperature was 103°.

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Dr. WM. GOODELL could not allow the remarks which Dr. Price had just made to go unchallenged. He believed that massage of the fixed womb could be employed with propriety, and without the indecency alleged by Dr. Price. He had, with Dr. Taylor, treated a case in which a pelvic inflammation had been set up by treatment at the hands of an irregular practitioner. She almost died, but finally recovered, with the roof of the pelvis feeling like a hard board. The womb was enlarged, and absolutely immovable. She had menorrhagia and constant pain. He began treatment by application of a mixture of carbolic acid, iodine, and chloral, and by using uterine massage. In doing this, one simply passes one or two fingers behind the womb, and catching it from above with the other hand, rocks it from side to side and backwards and forwards, stretching the adhesions, and separating them if possible. Dr. Taylor administered electricity locally. To-day she is in rude health. The discussion in regard to electricity reminded him of the old story of two knights approaching an image from opposite directions. The one insisted that it was gold, and the other that it was silver. From words they came to blows, and in their death-struggle they looked up and saw that the image had two sides to it, the one gold, the other silver. He thought this subject also had two sides to it. He had closely watched the growth of electricity, and had always felt that there were remedial virtues in the agent which would be developed. Yet while he believed that we could get a great deal of good from it, he did not believe that it would cure pus-tubes or suppurating ovaries; neither does he believe it will remove organized adhesions, although he felt sure that it would cause the absorption of recently deposited lymph which is not organized. He knew from unquestionable facts that in fibroid tumors in which hæmorrhage is a prominent symptom, electricity is an admirable agent, but he was not ready to accept the statement that it will reduce the size of fibroid tumors, either permanently, or without subjecting the patient to more risk than the operation of oöphorectomy. He knew of one of his friends who has had two deaths; another has had one if not more deaths; a third applied electricity to the womb of a lady in his office, and she died of inflammation a few days later. A fourth friend met with the same disaster, although he is an authority on electricity. On the other hand, he knew of the wife of a physician who had been treated in various ways, without benefit, for hæmorrhage coming from a fibroid tumor. The curette, however, had not been used. Three applications of electricity cured her. Her husband assured him that he had two or three other patients cured in the same way of hæmorrhage. He thinks that in fibroid tumors, when a current of one hundred and fifty to two hundred milliampères is applied, we shall be likely to obtain the result which occurred in a case lately reported in the "American Journal of Obstetrics;" viz., an opening into the capsule of the tumor, and the slow delivery of the latter by the vagina. If we decide to enucleate by vagina, it is far safer to incise the capsule, and remove the fibroid at one sitting. Such treatment prevents necrosis and its attendant dangers. He thinks there is a great future before electricity, especially in those cases in which operative procedures should not be resorted to, and in cases of recent pelvic exudates.

Dr. M. PRICE said that Dr. Goodell started out with a very pretty case indeed. The pelvic abscess was evacuated, and all that was risking her life was removed.

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Unless there was multiple abscess, the woman was safe after this discharge. Some years ago he had two cases of rupture of the abscess, one through the bowel and the other through the vagina. Both of these women are as healthy as any in this city, and neither electricity nor massage was used on them.

Dr. J. M. BALDY did not mean to deny that electricity would relieve pain and hæmorrhage in vascular tumor. Electricity is, however, a dangerous remedy used indiscriminately and in large doses, where we do not know the exact condition of affairs. The diagnosis in all abdominal troubles is obscure, and most so in pelvic growths. He considered that in hæmorrhage and pain we had safer remedies than electricity, and could accomplish just as much with them with much less risk. He realized that in fibroid tumor electricity will diminish the size, but he thinks that a study of the cases show that the effect is only temporary. The growth of the tumor could be stopped as well by other means as by electricity. It is the height of absurdity to talk of electricity removing organized adhesions without removing the patient also. In regard to the treatment of massage. If he attempted to so treat such a case as Dr. Kelly had so beautifully pictured on the board, and as had been talked of by other gentlemen, he would not say it would be indecent, but he was positive that he would lose the case; it would surely leave him and go to one of his fellow-practitioners. In such cases the patient will hardly permit of the necessary manipulation incident to an examination on account of the pain produced, and she would never tolerate for one moment such procedures as had been advocated. He did not believe that such treatment was at all feasible.

Dr. J. PRICE said that, in regard to the mortality, Dr. Chadwick, of Boston, says that he has had two fatal cases out of eighteen, and that he has given up its use. With thirty-one hysterectomies in Tait's experience and no deaths, and thirty-eight in Keith's, with three deaths, we see that the mortality following electricity has been greater than that of hysterectomy in the hands of such men as Tait, Keith, Bantock, Thornton, and others. He had had a case similar to the one of Dr. Goodell's. The pus was evacuated. He did not attempt to release the fixed uterus. The woman is now pregnant.

Dr. TAYLOR said that his experience had been chiefly with pelvic deposits. He had used electricity very little in anteflexion. In these cases rapid dilatation has relieved the trouble in a shorter time. In menorrhagia or metrorrhagia, the curette answers the purpose sufficiently well, and in seventy per cent. of the cases it relieves the trouble. In regard to gonorrhœa, he would simply state that he did not deny that it may be a cause of pelvic trouble. He was very glad to hear of Dr. Drysdale's success in the treatment of fibroids, but he did not think we did conceive of an electrolytic action sufficiently extensive to cause breaking down of a fibroid unless there was an electro-puncture.

Dr. T. H. BRADFORD said that if Dr. Baldy had seen the cases to which he had referred at a later period, he would have found that they had been benefited. The case of papilloma of the right broad ligament was one which nothing but operation could relieve. He was satisfied that great good could be done in some of these cases by the use of electricity. The result so far obtained has been satisfactory. Out of eleven cases there have been several cures, and all have been bene-

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fited. He would continue to use this remedy, and would, at a later period, give the society the results.

J. M. BALDY,
Secretary.

THE DETROIT GYNÆCOLOGICAL SOCIETY.

STATED MEETING, Sept. 12, 1888.

THE society met at the office of Dr. Manton. In the absence of the president, Dr. Gilbert was called to the chair.

EXHIBITION OF INSTRUMENTS, ETC.

Dr. LONGYEAR showed a self-retaining intra-uterine stem, which was intended not only to straighten the uterine canal, but, being hollow, to favor impregnation. Having a case in which there was a sharp flexion, and the patient being anxious for children, he had devised this pessary, but had not had an opportunity to use it, as the husband was found at fault.

WRITTEN COMMUNICATIONS.

Dr. F. W. BROWN read for Dr. F. R. Eccles, of London, Ontario, a communication on retrodisplacement of the uterus.

DISCUSSION.

Dr. LONGYEAR remarked that the difficulty in these cases is the adjusting of a suitable pessary. He is himself in the habit of introducing a large tampon of sheep's wool, saturated in boro-glyceride, behind the uterus, and another below the cervix. In those cases where the patient cannot at first tolerate a support, the results have been very satisfactory.

Dr. CARSTENS said that the most important suggestion in the paper was the individuality of these cases. Each case is by itself, and each requires a special pessary and treatment. Old pelvic adhesions and other conditions necessitate treatment before a support can be used. In many instances, and especially where the stem is employed, we should have the patient absolutely under our control, as in a hospital, in order to get the best results without the possible evils.

Dr. LONGYEAR said that there was a point in the etiology of retrodisplacements which had not been touched upon. That is masturbation. One writer on this subject states that he never sees a case of retroposed uterus in a virgin without suspecting, and generally finding, the habit to have been indulged in.

Dr. GILBERT said that there was one point in the paper to which he took exception, and that was in regard to the use of the binder. If his experience was worth anything, he had found that the binder should be applied so that the pressure comes low in front, and not on top, of the organ. Thus arranged, he found that it was a comfort to the patient, and he had never had any one return with uterine trouble as the result.

Dr. MANTON thought that the curability of these conditions was very doubtful.

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He was not aware of ever having seen a case completely cured as the result of wearing a support. In certain cases the Alexander's operation was advisable. But he believed in very few. Pregnancy, in his opinion, offered the best chances for cure. If, after delivery, uterine involution is carefully watched, and all tendency to displacement met by postural and local treatment, the results are most satisfactory.

Adjourned.

W. P. MANTON, M.D.,
Editor.

ANNUAL MEETING, Oct. 31, 1888.

The fourth annual meeting of this organization was held at the residence of Dr. Edward W. Jenks, the president in the chair. The usual order of business having been transacted, the society proceeded to the election of officers for the ensuing year, with the following result: —

President	HOWARD W. LONGYEAR, M.D.
Vice-President	R. C. HUTTON, M.D.
Secretary and Treasurer . .	WALTER P. MANTON, M.D.

A vote of thanks was proposed by Dr. Manton to Dr. E. W. Cushing, the able editor of the ANNALS OF GYNÆCOLOGY, for the careful attention given by him to the publishing of the society's transactions and papers.

Dr. C. B. GILBERT proposed a vote of thanks to the retiring officers of the society, which was unanimously passed.

The retiring president, Dr. E. W. Jenks, then read his address, which had to do with the education of women.

This was followed by a spirited address by the Rev. Wallace Radcliffe, D.D., after which the society adjourned to the adjoining room, where an elaborate collation was served, and the remainder of the evening was spent in social intercourse.

HOSPITAL REPORT.

THREE CASES OF VAGINAL HYSTERECTOMY. — MURDOCK FREE SURGICAL HOSPITAL FOR WOMEN, SERVICE OF DR. CUSHING. REPORTED BY F. L. BURT, M.D.

CASE I. — Mrs. X. is a widow of 68 years, whose history of interest is as follows: The menses appeared at 15½ years, and continued till patient was 52. There was considerable irregularity of periods before marriage, and as a girl she complained of dysmenorrhœal pains, but none since. She has given birth to seven children, since which period she has suffered three miscarriages. There is no history or evidence of any difficulty during accouchement, no lacerated cervix or ruptured perineum, nor stated cause of miscarriage. Complains of considerable constipation and of some slight bladder trouble. There has been much very annoying vaginal discharge in the past, of late much less in quantity.

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Up to the time of menopause, at 52 years, the flowing was considered to be normal, and the change of life was natural. There was cessation for five years, during which time she was perfectly healthy. Then flowing began by degrees, and she sought the advice of a surgeon. The uterus was curetted, this being ten years ago, with the result that she was much improved, and remained so for nine months following. At this time she was working very hard, and brought on flowing of considerable amount. Rest improved her, and there followed a period of two years of comparative comfort. After another attack of hæmorrhage the same surgeon was again consulted, and the same operation repeated. No benefit followed, a fact for which she did not blame the operation, but rather that the after-treatment was not so satisfactory as after the first time. From this she went on from bad to worse, but would have periods when she would go two or even three months without very much suffering, but most of the time she could not keep about at all. During the following three years five physicians were consulted, and at their hands she received internal medication and injections with only temporary relief. Four years ago another Boston surgeon was consulted, and he advised and performed another curetting. A relief of between four and five months followed. Her case was then diagnosed as carcinoma, and the prognosis for life was only six months. Hæmorrhages still continued at intervals until the summer of 1887, when there was a considerable flow. Three months later — Nov. 14, 1887 — she entered the hospital, seeking relief, although she had flowed scarcely any during this time.

Examination showed her condition to be extremely good, considering her past history. The vagina was found short, somewhat small in upper portion, the parts having atrophied to a degree. There was no cervix perceptible, and the vagina terminated at an opening large enough to admit a sound easily entering the uterus. Depth of uterus, using no force, about four and one-half inches. No hæmorrhage was noticed at time of examination, but instruments used internally would produce a show of blood, no matter how carefully they might be handled. Although the symptoms were not momentarily urgent, the disease was considered far enough advanced to require operation for removal of the mucous membrane, and she was curetted November 17. The curette passed easily into the cavity, and to the depth above mentioned. Nothing but soft tissue could be felt on all sides, as if among masses of villous growths, a condition which can only be appreciated by feeling. The uterine walls were apparently very thin, and the curette moved about as if in a large empty space. Only very slight force was necessary to remove the softened diseased tissues, but to those witnessing it, it seemed as if a very extraordinary

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amount of tissue was being removed. About three gills of *débris* was removed, and only very little hæmorrhage followed. Uterus was irrigated, swabbed, and a little subsulphate of iron applied to cavity. An application of iodoform wool was made to vagina. No treatment except irrigation followed, and the recovery was perfect. Examination showed the disease to be adenoma. She left the hospital, enjoyed five months of comfort and freedom from hæmorrhages, when they again recurred, and she reëntered the hospital May 2, when the same operation was again performed, with the same result; but this time there was found to be carcinomatous degeneration in some of the tissues removed. After recovering, the operation for total extirpation was advised and accepted, and performed by Dr. Cushing, June 13, before a number of members of the State society then in session.

The operation was essentially after Martin's method. The post cul-de-sac was opened, the peritoneal and mucous surfaces of the vagina being stitched through. The uterus could be drawn down only with great difficulty, owing to extensive adhesion; these were next broken up by the fingers. The floor of the pelvis was then sewed firmly to the vagina on each side and separated from the uterus, hæmorrhage being controlled by ligatures, and for greater safety by forceps also. The uterus was then retroverted, and dragged down by Martin's hooks and vulsella. In spite of every care it tore badly, and a sponge was put above it into Douglas' pouch to prevent infection. Finally it was brought down and the broad ligament tied, clamped, and cut. One ovary was removed, the other was not seen. The cervix had already been separated from the anterior vagina, which was similarly stitched through to prevent hæmorrhage; the separation from the bladder was easily made and the whole removed, leaving five pairs of pressure forceps on the stumps of the broad ligaments and pelvic floor.

The field of operation was irrigated with a weak sublimate solution, the sponge removed, and patient put to bed. There was no shock nor hæmorrhage. The forceps secured excellent drainage, and were removed on the third day. There was no interruption to an easy convalescence, and the patient left the hospital well on July 17.

Case II. — Mrs. H. entered the hospital Nov. 7, 1888. Age, 43; three children, aged 21, 19, 14; menses at 16; no menstrual difficulty. Last period August 1, for three days. For several years there had been a vaginal discharge, but until quite recently she had considered herself perfectly healthy. About the time for her next menstruation, September 1, she had a hæmorrhage, which condition has continued ever since. There was a two weeks' confinement in bed on account of great weakness. She was a patient of Dr. Tower, of East Weymouth, by whom she was brought

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to the hospital. Examination showed a disease of cervix uteri, with cervix infiltrated, and some adhesions in the neighborhood of the left broad ligament. The diagnosis of carcinoma was considered probable from macroscopic appearances, and was verified by a microscopic section. Ether was administered November 9, and as much of the growth as could be was removed by the curette.

Hysterectomy was recommended to the patient. This was accepted, and the operation performed November 15. The method was that usually described, except that the uterus was pulled down entirely by the cervix, and there was no turning. Ovaries and tubes were removed. Sutures were of silk. The broad ligaments were not ligatured, but were compressed by four straight clamps, two of the Wells' variety and two smaller sizes.

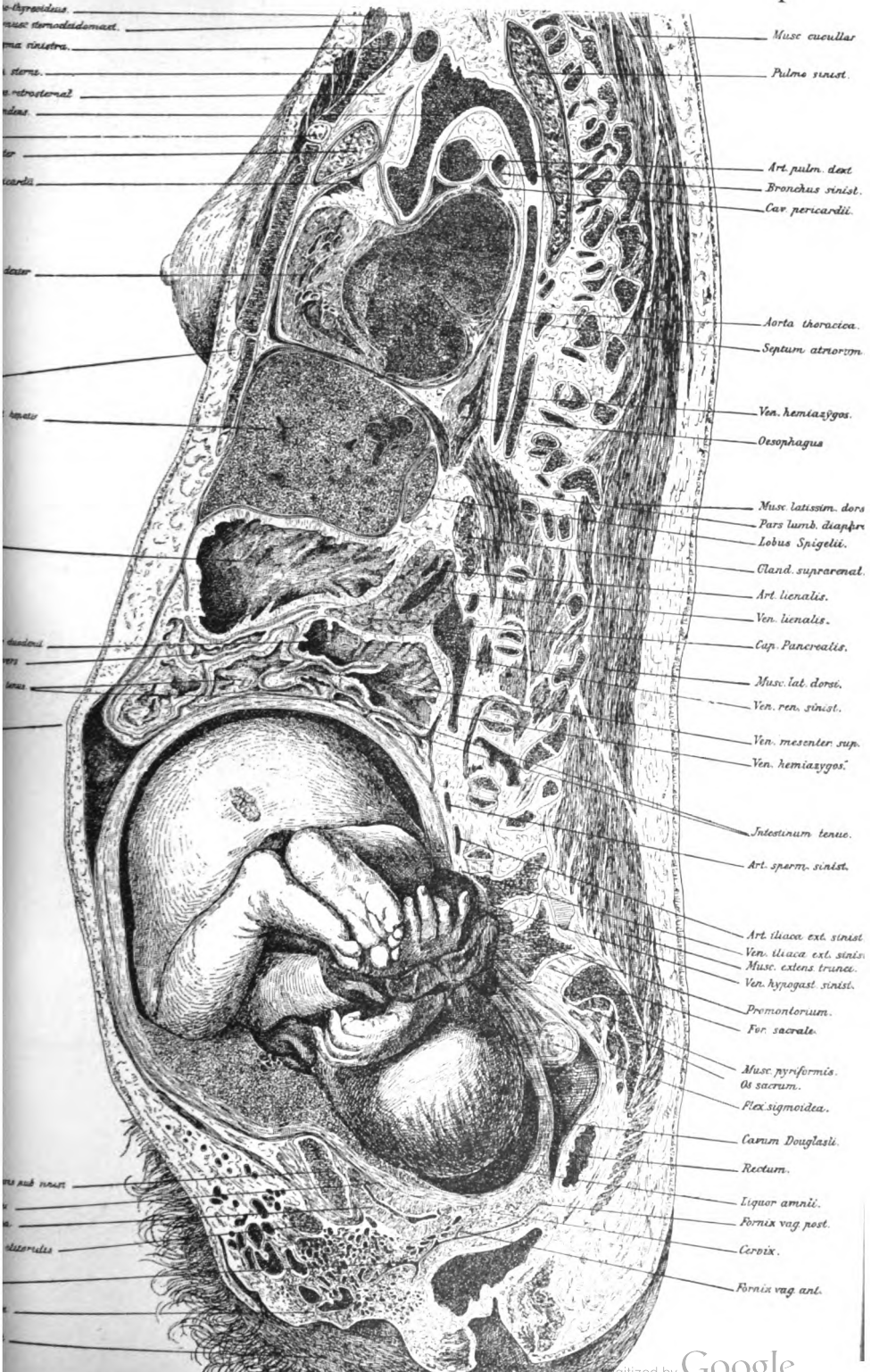
The hæmorrhage was very little indeed, and the reaction good. The clamps were removed on the third day and a $\frac{1}{3000}$ sublimate douche given. The recovery was only delayed a little by a retention of discharges; and as these were removed without difficulty, the case progressed satisfactorily, and she was discharged Dec. 24, 1888. (See Plate I.)

Case III. — Mrs. X., aged 66, was a patient of Dr. Hunt, of Newton, and was brought by him to this hospital. She has seven children, and gives no history of any trouble during labors, or any difficulties of menstruation. She had always been healthy till about fifteen months ago, when she began to have a vaginal discharge, usually watery, but sometimes of bloody matter. Suffers from weakness because of the discharges. No pain. She learned in September last that she had cancer, and she entered here December 9, and had a vaginal hysterectomy performed on the following day. Examination showed carcinoma, apparently confined to the cervix. No operation was thought advisable short of hysterectomy. It was performed as in the foregoing, but without any sutures; clamps were used, and some iodoform gauze packed into vagina. The clamps were removed on the third day.

The iodoform gauze was inserted for the purpose of antisepsis, and to prevent possible hæmorrhage. When the gauze was removed it had become rather foul, was saturated with the discharge, and probably caused it to be pent up to such an extent as to favor absorption of septic matter. There was a rise of temperature, and considerable pain associated. The use of gauze was not a success, as it did not allow drainage, and did aid in a temporary septic trouble. Gauze is not to be recommended, and will not be used again. The febrile symptoms kept up till the vagina was opened by a speculum and the collected pus was removed. Following this the wound healed perfectly, and she was discharged Jan. 10, 1889.

Examination of specimen showed the disease had invaded the mucous membrane of the body. (See Plate II.)

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Frozen section through the body of a woman who died during the first stage of labor.

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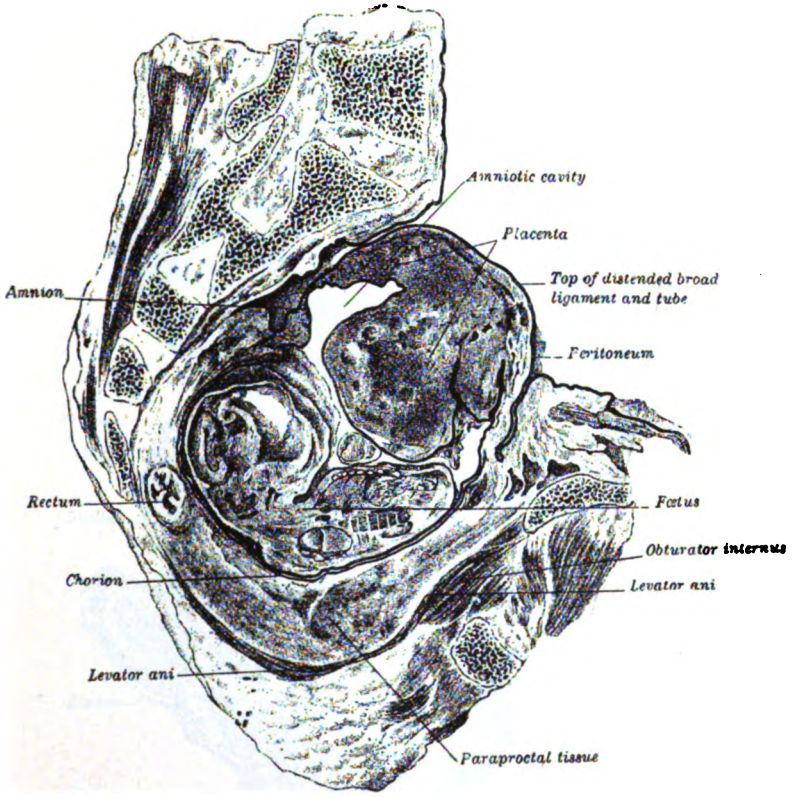


Fig. 1.

Sagittal lateral section (right) of pelvis, with extra-uterine gestation in right broad ligament.

(See pages 244–247.)

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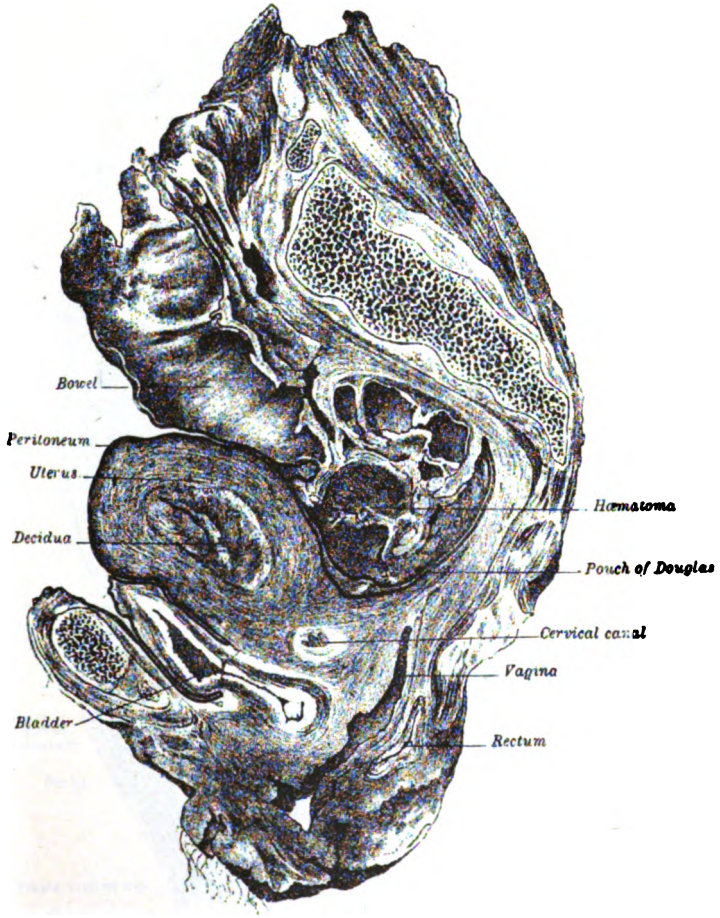


FIG. 2.

Sagittal mesial section of the same pelvis, showing uterus with decidua. This section demonstrates, inter alia, that what is termed clinically retro-uterine hæmatocele, may be hæmatoma.

(See pages 244-247.)

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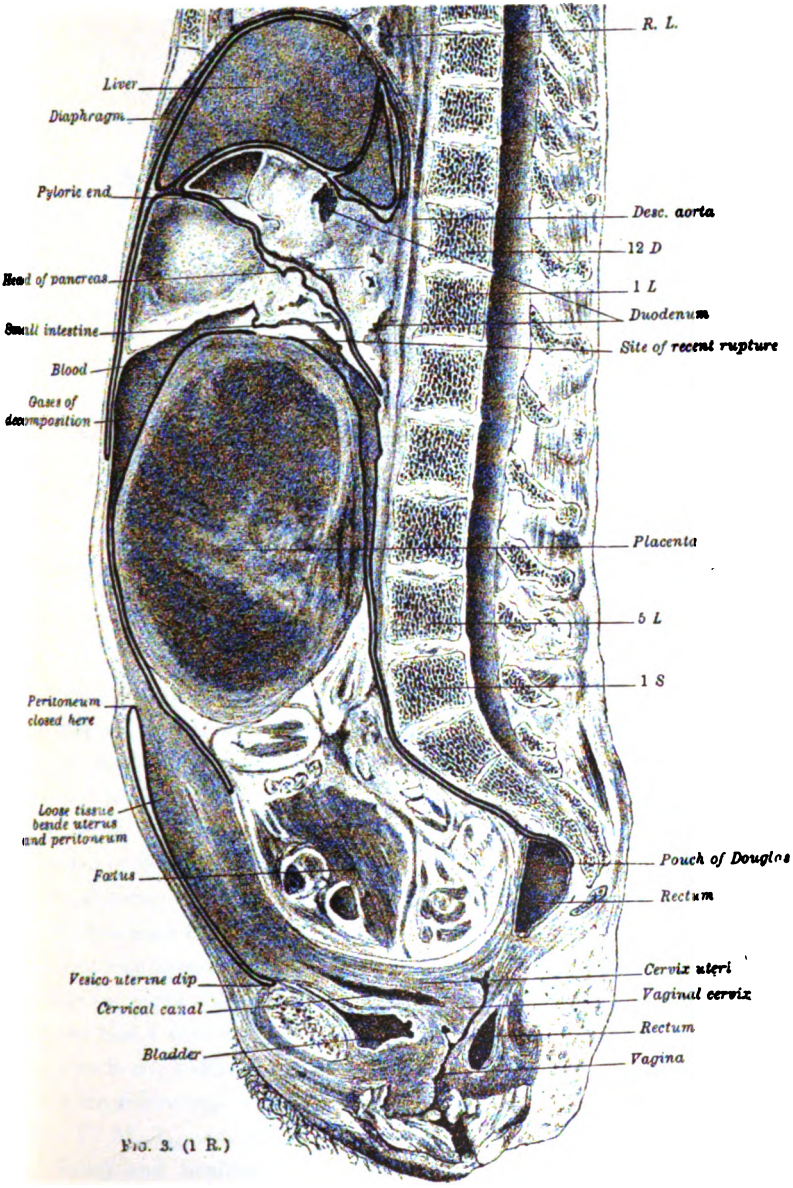


Fig. 3. (1 R.)

Sagittal mesial section of cadaver with advanced extra-uterine gestation — subperitoneo-abdominal.

(See pages 244–247.)

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ANNALS

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ORIGINAL COMMUNICATIONS.

A CASE OF EXTRA-UTERINE PREGNANCY, THE FŒTUS BEING DELIVERED AT FOUR MONTHS, PER RECTUM.

BY JAMES P. TUTTLE, A.M., M.D.,[1] NEW YORK.

IF I read the literature of the day correctly, there is no more burning question before the profession at present than that of ectopic gestation, its diagnosis and management. This growing interest is my only justification in consuming your time to-night with the history of a single case; but aside from its unusual, if not unique, termination, it will, I think, suggest some of the difficulties — I may say impossibilities — of diagnosis, and perhaps serve to illustrate the complications of certain methods of treatment advocated at the present day.

Without any discussion of extra-uterine pregnancy and its collaterals, leaving that for more able and experienced fellows here to-night, "a plain, unvarnished tale I will unfold to you."

On March 26, 1888, I was called to see the wife of an acquaintance, and made the following in my history book: —

Mrs. F. M. L., æt. 35, married eleven years. Tubercular history. Mother living and healthy, father dead; two brothers lately died of consumption. Has never been pregnant. Has been troubled for years with "falling of the womb," and has been treated by various methods for same. Menses have been generally regular, but several times have

[1] Read before New York Academy of Medicine, Dec. 2, 1888.

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been delayed or omitted without causing any inconvenience. Her last two periods occurred about the proper time, but the flow was slight in quantity and continued rather shorter than usual. She missed her period due on March 13 altogether, supposably from being out in the blizzard of that date. Has always had a delicate stomach, and any indisposition has showed a tendency to locate there. For some time back she has been troubled with nausea and loss of appetite, but cannot connect it with any of her menstrual periods. Says she has had just such attacks before. Digital examination showed womb slightly enlarged, well down, and apparently retroverted, or with posterior intra-mural fibroid; a positive diagnosis being impossible without the use of the sound, which was contra-indicated by the possible pregnancy, symptoms of which were present. There was great peri-uterine tenderness and heat about the vaginal parts. The right ovary could be made out with difficulty and pain to patient, and was enlarged and tender; the left could not be felt.

No hepatic or stomachic condition was found to account for the nausea. Diagnosis: Pelvic cellulitis and ovaritis of right side, possible pregnancy. Nausea reflex.

The treatment — hot douches, local applications by light tampons of boro-glyceride, and sodium bromide with lactopeptine — is not mentioned in the notes.

I saw the patient two days later, during a paroxysm of pain referred entirely to the rectum, apparently a spasm of the sphincter of that organ, which was promptly relieved by cold applications and lifting up digitally what I supposed to be an enlarged retroflexed and gravid womb, and so expressed myself, saying that it was at least certainly some uterine condition which was causing all her trouble. At the same time, however, I proposed her taking an anæsthetic and having a thorough examination made.

My patient, however, was not duly impressed with my pregnancy theory, and said if it was simply a uterine trouble from which she was suffering, she would prefer to be treated by electricity, as had been done for her once before successfully. Believing that such was not the proper course in this case, I willingly and in a most friendly manner surrendered the case to an electro-therapeutist of the eclectic school, who had treated her before. This was about April 2, and I did not see the case again till April 23, when her husband, at her request, sought me to take charge of her case again, and at this date I made the following note: —

April 23. Patient has been under treatment by electricity for her uterine condition, which *she* thinks is a little better, and instruments having been used inside the womb seem to disprove my diagnosis of pregnancy.

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She is very weak, unable to retain anything on her stomach, which she claims has been treated with large doses of powerful medicine. She expectorates a frothy mucid sputa (no tubercle); pulse weak, 120 per minute; temperature 101.

Patient said she was still flowing from a menstrual period, which had come on after an electrical *séance* several days before, and therefore examination was deferred till later date.

What does not appear above was told me by her husband after her death, that during one of these *séances* at the doctor's office, she had a severe hæmorrhage, lasting for two hours, and the doctor showed him a large mass of "black lumps," — I suppose they were the decidua and blood-clots, — which he said had been confined in her womb, and which had caused all her trouble, and which he had removed that morning. At the time she told me that she had had a severe and painful menstrual period, passing large pieces of black blood, and lasting for six days, leaving a slight flow which remained at the examination, and which, it will be seen from the history, continued for six weeks. This led me to believe that an abortion had been produced and an islet of the placenta left adherent.

The next note I have of the case is of the examination made two days later.

April 25. Patient much better, stomach retains considerable food; no nausea; temperature 99; pulse 95.

Examination: Continued vaginal heat, and tenderness in peri-uterine pelvic tissues; uterus enlarged to five inches, slightly movable, in fair position, somewhat to the right side; large, round, hard tumor-mass between womb and rectum, not particularly painful upon manipulation, closely attached to womb, and movable with same, and to about the same extent. Present symptoms and feeling of fibroid "or possibly hæmatoma." Hot douches, boro-glyceride tampons, and general constitutional remedies were employed with fairly good effect for some weeks. In fact, the patient got up, was able to move from 42d to 58th street, refurnish a flat, and thought she was getting well. In spite of my advice, she continued to attend to household duties, going to market, etc.; and the next note I made was six weeks later, as follows: —

June 1. Has had continued slight flow of blood from wound for past eight weeks, in spite of local application of astringents and administrations of ergot, gallic acid, etc. Dull curette fails to find any vegetations; lining membrane is smooth. Tumor does not seem to grow in size, but is sagging down in sacral fossa, causing retroversion, difficulty in stools, due to pressure on the rectum and beginning hæmorrhoids. I injected f℥ ss ferri persulph. into cavity of womb, used larger tampons inserted in

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the knee-breast posture with intent to raise tumor, if possible, above brim of pelvis, and continued general treatment.

June 5. Symptoms same; treatment repeated, injecting this time f℥i ferri persulph.

June 9. General condition same, hæmorrhage almost ceased. Treatment continued.

June 13. Hæmorrhage entirely ceased; patient visited me at my office and feels much better. Treatment by tampons continued.

This condition continued first better then worse for about two weeks, when the next note in my history of the case occurs.

June 25. Condition much the same. No more hæmorrhage, but tumor has sunken gradually lower, produces much pain in rectum, difficulty at stools, and now presents sensation of slight softening or breaking down.

I told her husband that afternoon I should put an aspirating needle into it in a day or two; but being with a desperately ill patient the next day, I failed to see Mrs. L. until about 4 P.M., having been summoned by an urgent note from her about 2 o'clock.

Upon reaching the room, I found our fellow Dr. Harvie Dew delivering a fœtus from the rectum of my patient, which, at my request, he proceeded with and accomplished, without difficulty, in a few moments. He had been called in hastily after the feet had presented at the rectum, and was kind enough to assist me in the further management of the case. The succeeding work made of the case was brief, and as follows: —

June 26. Patient having taken a cathartic last night was seized with severe griping and intense pain in the rectum about 11 A.M. After severe straining she was delivered of a four months' fœtus per rectum. The rent in the wall of the rectum was a perpendicular rent, straight and clear cut, as if done with a knife, about two and one-fourth inches in length, and located in the left posterior aspect of the gut, about two to two and one-half inches from the anus. The cord was intact, attached to both child and placenta, but atrophied, and became detached from placenta by the slight traction necessary to use it as a guide for reaching placenta.

The placenta not following the child, the patient was etherized, and an attempt made to remove it. It was firmly attached, and the little manipulation which we dared brought on arterial hæmorrhage to such an extent that we decided it would be unwise to use any force in the weak condition of our patient, and therefore tamponed the cavity tightly and left the placenta, hoping it would detach itself or degenerate and come away gradually. Here the patient had an alarming failure of respiration, and artificial breathing had to be resorted to to keep her alive. Under

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hypodermic administration of stimulants, hot packs, etc., the patient revived, and in the course of two or three hours was feeling quite comfortable, with a temperature of 99° F., and pulse 140.

June 27. No unfavorable symptoms. Pulse 130, temperature 99°; patient suffering very little pain, but very weak. Two or three tampons taken out, and the rectum irrigated with two and one-half per cent. carbolic solution.

June 28. No change in symptoms, except patient losing slowly her strength. Removed tampons, which seem to have been in the rectum only, and found the placenta plugged so tightly into the vent that it was with difficulty that I could get my finger between it and the torn edge of the wall of the gut. It bled upon manipulation, and the slightest traction upon it brought on such a condition of shock and collapse that my friend, Dr. Glassford, and I thought she would die then and there. She revived, however, and after consultation with Dr. Dew we decided to let the placenta alone, to come away itself, or at least till the patient could gain strength sufficient for the operation of removing it. There was no tympanitis, abdominal tenderness, or other evidence of peritonitis. Temperature 99°, pulse 150.

June 30. Patient has rejected all food; is losing strength steadily. Placenta feels soft, as if breaking down, and bleeds less upon touch, but any manipulation produces dangerous shock and collapse.

July 1. Patient rallied somewhat through the night, had two or three movements from the bowels, which I did not see. Without any special pain, she complained of a sinking sensation about 7 o'clock this morning, and had me called. I reached her side in a few moments, and recognized at once that she was sinking from hæmorrhage. I found the placenta still plugged into the rent in the rectal wall, and no blood entering into the rectum. Attempts to tampon, and all other efforts to support her waning strength, proved futile, and she died in about an hour, her last request being made of her husband and mother that they would not allow an autopsy. The attachment of the placenta is therefore uncertain, but that it was probably attached to the left tube or ovary may be inferred from the absence of the latter in its accustomed place, and the position of the placenta to the left of the rectum. It will be observed that the patient had no definite symptoms of rupture of the tube, or hæmorrhage therefrom, while she was under my care. I therefore judge that the cyst containing the child had probably burst into the cavity or folds of the broad ligaments, as in some cases mentioned by Lawson Tait, and but for the severe straining produced by herself, inflicting catharsis, would have proceeded to the usual result in such cases; viz., decomposition, abscess

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formation and its concomitant, constitutional rupture and symptoms, discharge through the rectum or vagina. It will also be noted that there were never any of those colicky pains usual in ectopic gestation, and that the symptoms of pregnancy had almost totally disappeared when she came into my hands the second time; in fact, the symptoms after this were those of a simple uterine fibroid, or hæmatoma, indicating that the death of the fœtus had taken place before this time. Unfortunately I am unable to give the strength of the electric current used, notwithstanding I wrote to the doctor, asking for it; but the patient was an intelligent woman, and told me that she was treated by galvanism, and that she had to be taken to the doctor's office, because he needed a larger battery than he could carry for her treatment, which leads me to conclude that a moderately strong current at least was applied, and that that current was the cause of the death of the child. I do not say this in disparagement of the doctor's treatment, for it is well known that this very method has been long advised by some of our best gynæcologists; but as illustrating the dangers of the proceeding, and the darkness in which we are afterwards left, the case is one of deep interest to us all. The fœtus was in a good, but not perfect, state of preservation, when delivering, and the placenta to my touch was as large as one of six or seven months' growth.

I have searched the literature upon this subject as thoroughly as my time has permitted for the past three months, and while I find numerous instances of disintegrated fœtus being delivered out of abscess sacs, through the rectum or vagina, I have failed to find one in which rupture through the rectal wall and delivery of the fœtus intact has occurred, as in the case herein related.

The great necessity of considering the placenta in our treatment of these cases is herein exemplified; for it was not the child or the rupture of its sac which caused the death of my patient, but hæmorrhage from the placental vessels or its attachments, and such hæmorrhage might just as well have occurred months after the delivery or destruction of the child as a few days afterwards.

136 WEST 41ST STREET.

NOTE. — Since reading the above paper it has suggested itself to me that from it one might accuse me of never having considered extra-uterine pregnancy as a possibility in this case. Not only did I consider it, but I also discussed it with an experienced physician here in New York; and, weighing the evidence *pro* and *con*, we decided against such a diagnosis.

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ON MYOMATA.

BY DR. A. MARTIN, OF BERLIN.[1]

In discussions concerning myomata, at present, the question of therapeutics has become a prominent subject of reports and of the histories of cases. Up to the present time, our excellent text-books contain essentially the results of a collection of notes from publications, into which the experiences of the author have been woven. In the course of time, however, material has accumulated to such a degree that it certainly seems advisable to approach the question from the standpoint of the experience of individuals. From this point of view I have rejoiced to hail the first step towards this object in the publication of Hofmeier and Schroeder; the publications of the chairman (Professor Kaltenbach) have also been extraordinarily valuable in this sense. I have hitherto avoided expressing myself at any length concerning my observations on myoma, since from the beginning I had the impression that it was only when supported by as wide an experience as possible that any one could enter upon the question of the significance, indications, and therapeutics of myomata, on which there are so many and so divergent opinions; therefore, in spite of many provocations, I have contented myself, in this direction, with only, now and then, giving some particular facts. Meanwhile, I have come into the position of having at my disposal two hundred and five cases of myoma of the uterine body, which I have removed by operation, not counting among these the cases in which I have only observed the myoma clinically and treated it medically, nor the cases of cervical myomata, nor yet the cases in which I found a myoma at the autopsy, — such, for example, as the case of fatty degeneration of a myoma in a puerpera, which I described in 1873, and which has been so often quoted. In collecting these two hundred and five cases I will not yet report the final conclusions here; I will limit myself to relating the results of a histological study of the specimens in question.

In the first seventy cases I have not observed any striking alterations, except the processes of involution and transformation of tissue which accompany the menopause; afterwards, however, the specimens showed an extraordinary variety in this respect. First, the cases were noticeable in which the processes of fatty degeneration were prominent, sometimes in small, isolated foci, sometimes as fatty degeneration of whole nodules,

[1] Read before the German Gynæcological Society, 1888.

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so that they were in fact cases of liquefaction, such as I have described in a puerperal woman in 1873.[1]

These conditions of fatty degeneration are certainly to be considered as one of the favorable terminations of this whole pathological new-formation. Seven times I have had occasion to observe very extensive fatty degeneration of large myomata; that is, of cases where the whole tumor seemed more or less permeated by it, so that an advanced stage of involution was present. Allied to these are three cases, in which the myomata were in the stage of calcification; these calcifications were in some cases noticeably limited merely to the surface of the tumor, and this was particularly striking in the case of an old lady who carried such a calcified myoma which was pediculated; it was situated on the upper part of the uterus, and necessitated an operation, owing to the extraordinary sufferings which the woman was enduring. There were, however, among these no such large myomata as are recorded in several instances. My cases had induced the most important clinical symptoms, owing to the effects of pressure, and had thereby made their removal advisable.

Quite different were the ten cases in which suppurative processes were present; and this occurred not only in such myomata as lay close under the mucous membrane, intra-parietally, and having caused atrophy of the former had thus come in contact with the micro-organisms of the cervical canal and of the vagina, or had been exposed to the entrance of the latter by a lesion caused by examination or by treatment; but there were also cases among them where the myomata lay completely embedded, evidently far from the uterine cavity, laterally; there were even some which were on pedicles and entirely outside of the whole corpus uteri. The suppurative processes were observed in various stages of development; in some, — and these were particularly the cases of suppuration of myomata which were embedded intra-parietally, — there was a purulent infiltration of the whole tumor; in others, decomposition had evidently occurred only at the end of the myoma. But there were also some cases among them where the whole myoma, transformed into a great suppurating mass, had perforated the serous coat, so as to invade the abdominal cavity, and here had led to adhesions with the sacrum and with the neighboring abdominal viscera. Laparotomy was then only a last attempt to save the septic patients, — an attempt which, however, did not result favorably.

Beside these ten cases of suppuration, I have eleven times seen extensive formation of œdema in the myoma. This condition, which is to be considered as a result of a stagnant circulation, was generally in extraor-

[1] Beitr. zur Geb. u. Gyn. v. d. Berlin. geburtshilflich. Gesell., Bd. ii.

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dinarily anæmic women, who were reduced by prolonged hæmorrhages. The tumor, as a rule, shook peculiarly when struck, like jelly. When cut across, a peculiar serous infiltration was noticeable; it seemed as if the serum lay in preformed spaces. We have not succeeded in finding ectatic lymph spaces, and we could only determine that there was an intense and marked development of collections of serous fluid. Just this condition appeared to be associated with quite peculiarly profuse hæmorrhages, or perhaps it was a consequence of the latter; at any rate, the patients who had such myomata had been sufferers from extraordinarily profuse attacks of bleeding, and it had not been possible to stop or to essentially limit the latter by any kind of treatment.

Beside these œdematous myomata, I have eight times found cystic ones; these were, in part, cases in which we found in the middle of the tumor great knobs of stony hardness, or several larger or smaller cysts; in part, cases in which, between these cystic transformations, one great knob was found, up to the size of a man's head, while beside this there were others, which were relatively small, or showed the usual formation of these structures. These cystic transformations then led either to the development of very large spaces, which it had been possible to recognize even before the operation, or they were first found after the operation was finished, when the tumor was split open. In these spaces we found a yellowish, strongly albuminous fluid, but we have not succeeded in demonstrating, in all the spaces, an equal and decided distention; in fact, in some cases we have sought for this in vain, while in others, especially in small ones, a pavement epithelium could be demonstrated, which had undergone partial fatty degeneration.

Three times the myomata were teleangiectatic to a marked degree. All three were very large tumors: one was attached by a pedicle to the fundus; both the others comprised the whole body of the uterus. These teleangiectatic tumors contained spaces consisting of dilated vessels, which varied in size from that of a grain of millet to that of a walnut; the tissue lying between these cysts was permeated by capillary vessels; in the spaces themselves great masses of clots were found; in some there was blood yet fluid. Just this form seemed to me to be highly worthy of notice in regard to its relations to the vascular system, in view of the disposition to thrombosis and embolism. It happened also that one of the patients, on the 26th day, after I had let her get up with great caution, sank dying in my arms from embolism at the moment when I was going to send her home.

These processes are such as have run their course in the tumor itself, and perhaps belong more or less to the peculiarities of this kind of growth;

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but I have, in *six cases*, had occasion to demonstrate the *formation of sarcoma* in myomata of the corpus. Twice there was that form of fibroid sarcoma which has been described by Schroeder and Gusserow, in which no formation of capsule can be shown, where there is a sort of pedicle, and the whole tumor consists of sarcomatous masses. In four cases the sarcomatous degeneration of the myoma could be shown directly. These were tumors which were distinctly encapsulated. They were allied to the cases referred to by Gusserow in his last edition, of which the most striking was the one described by Winckel. They usually lay submucous, but sometimes also, as my cases showed, intra-peritoneally. Two were distinguished by the fact that their capsules had been ruptured, and that metastases had developed. It was further noticeable that two of these patients, after they had been freed from these myosarcomata, had relapses of general sarcomatous degeneration, which led to the death of one of them in seven weeks, and of the other in four months, after the operations. This sarcomatous degeneration seems to me to be more worthy of attention, from the fact that in all these cases the patients had been for a long time under treatment, and especially in these cases ergotin had been employed very extensively. In them the abnormal hæmorrhage had been completely overcome; the tumors themselves, after an apparent reduction of their volume in the beginning, could not be restrained in their transformation.

Turning now to the complication of *myoma with carcinoma*, I am not in a position to present and demonstrate a specimen of the destruction of a myoma by carcinoma. All investigations directed to this point, like those formerly made by others, have been completely unsuccessful. Although the opinion was formerly entertained that carcinomata and myomata do not occur together, this proposition has been disproved long ago. The question seems to me, however, illustrated in yet another direction by the material at hand.

I have in nine cases had occasion to observe the complication of myoma with carcinoma, and among the nine there were only two cases of cervical carcinoma or of cancroid of the vaginal portion; in the other seven cases of extensive cancer of the mucous membrane of the corpus, the carcinoma had in some cases extended entirely in the cavity of the uterus, without standing in any demonstrable relation or connection with the myoma. In other cases the myoma itself had been implicated in the degeneration. I am by no means of the opinion that any conclusion is warranted from these cases alone. It has seemed to me, however, worthy of notice that these observations on the last hundred of my cases have not only shattered the old maxim of the immunity from carcinoma of

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patients with myomata, but also the belief that it is very rare for carcinoma and myoma to occur simultaneously.

Of the two hundred and five myomata of the corpus, therefore, only ten showed pronounced conditions of involution; thirty-two were undergoing a transformation which must be designated as very serious for the women afflicted with them, six were in malignant degeneration, and nine showed a fateful complication with carcinoma. If we leave the latter cases out of consideration, as being "accidental complications," the fact remains that yet thirty-eight out of one hundred and ninety-six (205 less 9), or out of one hundred and eighty-six (if we subtract the cases of involution of the tumor), thirty-eight, that is, 20$\frac{4}{10}$ per cent., *showed changes which certainly represented the opposite of that which is called "benign."*

THE PRESTON RETREAT.

A MODEL MATERNITY HOSPITAL.

THE Preston Retreat in Philadelphia was established, according to the provisions of the will of the late Dr. Jonas Preston, in order to furnish to indigent, respectable married women assistance at the time of labor.

The hospital building stands free, in a high, open square; it is well lighted, with a perfect system of cross ventilation through doors and corridors intersecting at right angles.

The baths and water-closets are quite detached from the building, in towers at the four corners, connected with the main building by verandas, which can be closed with ease in inclement weather, but yet allow a free circulation of air between towers and wards, thus eliminating every source of contamination.

The plumbing, including that of bath-tubs and water-closets, is fully exposed to view; the pipes are kept painted and scrubbed. In each bath-room are basins of iron granite, of two sizes, in order that the nurse may use for each patient a separate basin for face and genitals.

There are no sponges, wash-rags, nor absorbent cotton used, but in their place a preparation of refined, bleached jute impregnated with corrosive sublimate. It is used but once. Towels, when used, are hung upon a rack and are carried away every three hours; in fact, no soiled articles of any description are permitted to remain in the house. A ward girl makes the rounds of the whole building once in three hours, and

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removes to the laundry, a building distant from the hospital, whatever is soiled.

The scrub-brushes are kept outside of the house, in a brick pier. The water used in the wards is brought in buckets. The floors are scrubbed with brushes made of bamboo, adjusted to a handle.

The walls and ceilings are all painted, so that they may be washed.

The capacity of the whole building is, at present, over fifty patients per month. It will be increased soon to accommodate twenty more monthly. The beds are entirely free. There is a system of rotation of wards, which always leaves one or more in turn empty for two or three weeks. The wards, including walls and ceiling, are then scrubbed with soap and water, and thrown open to the air. This is done immediately after and before use. When the ward is reopened, the beds are filled with fresh rye straw. These beds are used but ten days, and then the patient is sent to the convalescent ward, where hair mattresses are preferred.

In regard to the preparation of patients for labor, each one is cared for by Mrs. Robinson, who has been a nurse here for over twenty-three years, by washing and bathing and the use of a douche of corrosive sublimate. Following delivery a vaginal douche of the sublimate, one to two thousand, is given. This is the only one given, unless indications arise for repeating it.

The infant's face is washed, before the shoulders are delivered, with a pad of sublimate jute dipped into simple water, and there has been no eye trouble for over a year.

Among the mothers, there have been no deaths from any cause, nor even any high temperatures, except from emotional causes, for four years or more. The hospital was brought to this high degree of perfection of management and results by Prof. William Goodell, who, on his resignation, was succeeded by Dr. Joseph Price, the present superintendent, under whose advice the trustees have made recent changes in the plumbing and ventilation of the wards in order to facilitate the maintenance of the present admirable results, and to increase the capacity of the institution. The whole institution is governed by a strict attention to cleanliness, which has become a religion. Physician and nurses, patients and wards, kitchen and laundry, are clean, and the whole system of cleanliness is applied to every detail of the delivery and of the management of the puerperium.

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THE DISORDERS OF MENSTRUATION.

BY ANDREW F. CURRIER, M.D., OF NEW YORK.

THE functions of the body are performed painlessly, and without the consciousness of the individual, when normally performed. Consciousness of functional action or pain attending it indicates abnormality. Because parturition is painful, it cannot be argued that menstruation should also be; and they who assert that a certain degree of pain is necessary and usual are asserting opinions, and not facts based upon anatomy and physiology. Menstruation, in its simplest meaning, is a discharge of blood, epithelium, and glandular secretions from the uterus, mingled with vaginal and vulvar secretions, recurring each lunar month, lasting three to six days, due to a stimulus which produces congestion of the genital apparatus, and which probably depend mainly upon the congestion. Many theories of the cause and object of menstruation have been propounded; those of Beigel, Pflüger, Pouchet, and Goodman are briefly sketched by the author. The vascular supply of the ovaries is vastly greater than could be necessary merely for nutrition. This and the great plexuses of contiguous veins indicate an arrangement for repeated engorgements. Their great nerve supply and connections with many of the important organs of the body indicate their physiological importance, and explain the existence of so many so-called reflex disorders. The argument that menstruation is an ingraftment upon civilization is plausible only in a very moderate sense. Under favorable environment, women doubtless menstruate more freely, and give birth to more and healthier children than in the savage or barbarous condition; just as the analogous fact holds good in stock raising and breeding. Women who are eminently intellectual, however, like George Eliot, Madame de Staël, and Elizabeth Browning, are not, as a rule, prolific; and so it may be said that as the intellect becomes refined and cultivated, it is at the expense of the animal part of the nature, with which the reproductive apparatus is chiefly concerned. It would seem more reasonable to consider menstruation the development and perfection of a function which has been observed with greater or less distinctness in almost every variety of animals, the habits of which have been carefully studied. The testimony of Buffon, Cuvier, Saint-Hilaire, and many other eminent investigators, is cited in proof of this statement.

Disorders of menstruation are classified as —

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1. Amenorrhœa. — Absence of the menstrual flow.

2. Dysmenorrhœa. — The condition in which the menstrual flow is obstructed.

3. Oligomenorrhœa. — Scantiness or insufficiency of the menstrual flow.

4. Polymenorrhœa. — Excessive menstrual flow.

5. Atopomenorrhœa. — Menstruation, or a menstrual flow, which is out of place or unwonted.

The following general principles are usually admitted: —

1. Races or tribes that are least removed from animals most resemble animals in respect to this function.

2. Nervous women seldom menstruate without discomfort. They frequently have dysmenorrhœa or oligomenorrhœa.

3. Influences located in the vascular system may be sufficient to determine great abnormalities in menstruation. A very weak heart may determine a scanty flow, and a very strong heart a profuse one.

4. Great elevations with diminished atmospheric pressure favor profuse menstruation.

5. A humid atmosphere is frequently a concomitant, and probably a cause of amenorrhœa or dysmenorrhœa or oligomenorrhœa, owing to change in the pressure-relations between the atmosphere and the fluids and gases in the body.

6. Women menstruate earlier in hot climates than in cold. In tropical climates it is not unusual for the first menstruation to occur between the ages of eight and twelve years.

7. Extreme cold is always unfavorable to the regular and easy performance of the menstrual function.

Amenorrhœa may obtain with those who have passed the menopause, whether prematurely or not. It does not strictly apply to those who suffer from retention of the menses. It may be temporary or intermittent. It may produce disturbance of the general condition, but not unless there is a recurring congestion which must find relief or exit. When accompanied by symptoms, there may be pain and discomfort in the pelvic region, pain in the loins and head, and perhaps general malaise. It may be due to mechanical obstruction, or to the debilitating effect of wasting disease, to humid atmosphere, cold, etc. Dysmenorrhœa includes cases in which there is an obstruction, either mechanical or chemical, to the outflowing of the blood; that is, the cause may lie in the blood, or in its surroundings. Pain is usually an accompaniment, but not necessarily; this being largely a matter of temperament. Besides pain there may be a soreness of the muscles or joints, nausea and vomiting, and even violent

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mental agitation. It may be due to weak heart-action or deficient contractile power of the uterine muscle. It may be associated with sub-involution, with uterine displacements, with obstruction by tumors, and obstruction by hypertrophied mucous membrane. It may also be caused by various atmospheric conditions. Abnormal constituents of the blood, or the normal constituents in great excess, the specific gravity being greatly increased, may act as a sufficient cause. Oligomenorrhœa is the condition in which the menstrual flow is insufficient to relieve the pelvic congestion, the term being a relative one. It may persist during pregnancy. It may be due to deformities or want of development of the organs, to uterine displacements, to obesity, or to anæmia. Polymenorrhœa is also a term which must be used in a relative sense, since the loss of a few ounces of blood may bring one woman to the verge of collapse, while another may lose great quantities for long periods without evident distress. It is not a necessary accompaniment of the menopause, but its occurrence at such a time indicates underlying disease. Of all forms of menstrual disorder it is the one which calls for the most active repressive treatment. It may be due to various diseases and new-growths of the uterus and its mucous membrane. Occupations in which one is constantly exposed to great heat predisposes to it; for example, those of cooks and laundresses. Prostitutes and others who greatly abuse the sexual act are frequently sufferers from it. Atopomenorrhœa is a term which is offered as a substitute for the inexact and inaccurate expression, vicarious menstruation. Its synonym, xenomenia, is etymologically correct, and though suggested by Lamant in 1720, has rarely been used. Displaced menstruation may appear, as bleeding from the nose, gums, lungs, stomach, rectum, or anus; from nævi ulcers, fissures, fistulæ, and nipples; from the anterior chamber of the eye and the external auditory meatus; or it may appear as an extravasation into or through the skin, in the form of bloody sweating, purpura, acne, etc. All these facts tend to show that the monthly congestion in woman is not local but general, or that the vascular tension at such times is so raised that vessels which are near the surface are much more liable to rupture than under ordinary conditions of tension and pressure.

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CASE OF EXTRA-UTERINE PREGNANCY, WITH PRIMARY RUPTURE INTO CAVITY OF LEFT BROAD LIGAMENT AT EIGHTH WEEK, AND PROBABLE SECONDARY RUPTURE INTO PERITONEAL CAVITY WITH SLOW HÆMORRHAGE ABOUT THE TWELFTH WEEK. — LAPAROTOMY. — DEATH ON FIFTH DAY.

BY A. J. RUSSELL, M.D., OAKLAND, CAL.

SINCE the birth of her last child, five years ago, Mrs. Alice G., æt. 44, had menstruated — without pain — quite regularly until Sept. 1, 1888. At this date the flow only continued for two days, instead of five or six, her usual time. She had no pain, however, and thought but little about the matter one way or another. When the following period for the expected flow came around, *i.e.*, October 1, and she still saw, nor felt no indications of being unwell, it was decided by herself and friends that she was probably commencing her change of life. Along towards the latter part of October she began to feel ill, and complained of an aching fulness in left iliac region. On November 1, while sitting quietly in a chair at a neighbor's, she was taken violently sick, and had sharp pains in the lower part of her abdomen. She walked home, two blocks distant, and fell fainting upon a sofa, with cold hands and feet, pale face, and vomited. Her family physician was sent for, and she got hypodermic morphia, hot applications to extremities, etc. The next day she was easier, but the pain and soreness in left side kept her in bed for a fortnight; then she was up and about the house for a few days again, but was soon obliged to lie down and keep quiet. The trouble had been diagnosed inflammation of the bowels and bladder. Towards the last week of this month she was taken suddenly with serious aggravation of all the symptoms above related, and I was requested for the first time to visit her. The face was pale, eyes somewhat sunken, body emaciated, tongue coated, pulse 100, rather weak; temperature sub-normal, 97. She was lying on her back, with limbs flexed; her belly was flat, and covered with hot flannels; there was more or less tenderness all over the abdomen, but especially sore in the left iliac region. Digital examination found a hardish, but somewhat resilient, mass on the left side of the uterus, pushing the latter slightly towards the right, and so intimately connected that no sulcus whatever was distinguishable between the two. The womb was empty, and measured three and three-fourths inches. She had not taken solid food for ten

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days; there had been some diarrhœa, and the stomach now was rejecting lime-water and milk. Summing up the history of amenorrhœa for past three months, the irregular flow when last seen, the sudden onset of violent pain, followed by symptoms of shock, the subsequent soreness, and the absence of the usual signs of suppurative cellulitis, it was thought warrantable to make a diagnosis of extra-uterine gestation. The nature of the trouble was explained to the family, and also full instructions relative to the operation for opening the abdomen was given. Consultation was requested at once, and that evening a large red decidua was passed into the bed-pan. The next morning at ten o'clock the patient was carried into a front sunny room, and the abdomen opened. A blackish mass bulged up to the left of the uterus, and was adherent to the intestines; the omentum was black and spotted; old blood-clots were scattered here and there through the abdominal cavity, knuckles of the small bowels were firmly adherent in patches. The hand was passed down around the mass for the purpose of outlining the growth and detaching adhesions; with some difficulty a strong ligature was carried beneath the broad ligament and up along the side of uterus; it was quite puzzling, however, to tell where the uterine tissue ended or the sac formation began, so closely were they blended one with the other. The adhesions and clots were now looked after, and when all oozing had ceased the ligature was quickly and powerfully drawn down so as to form a sort of pedicle; this was transfixed, and each side again securely tied. Upon cutting through the sac, the plum-colored, purplish placenta protruded, and a good deal of venous blood escaped; then a small fœtus (dead) was seen wedged down towards the centre of sac cavity. This, together with its placenta, the left ovary, and broad ligament, were then removed. The peritoneal cavity was washed out with slightly carbolized water that had been previously boiled, and a drainage-tube being inserted in lower end of womb, the abdomen was closed. She was almost pulseless, and there were well-marked signs of shock, — vomiting set in towards evening and continued for two days. She then got a little lime-water and milk, and passed rather a good night; for the next two days she gave us little trouble. The drainage was satisfactory, discharge being free, and of a pinkish serum; bladder acted well; but on the evening of the fourth day her temperature rose to 101. She began to vomit again, and continued to grow worse up to the evening of the fifth day, when she died, with well-marked symptoms of pyæmia.

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TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Dr. James B. Hunter, of New York, read a paper on "Vaginal Hysterectomy."

Two points must be considered in the discussion of such a subject: one as to the immediate result of the operation, and the other as to its permanent result. Both must be good, in order that the operation may hold position as a justifiable surgical procedure. It has been decided for some time by comparative statistics that the immediate results are not worse than those of many other major surgical procedures, and the recently published statistics of Secheyron seem to show that the permanent results in many cases are also good. The dangers of the operation arise from shock, hæmorrhage, peritonitis, and septicæmia. As to the first of these, rapidity of operation seems to lessen the danger of shock in this, as in other serious gynæcological operations. The dangers from hæmorrhage have also been greatly reduced since the introduction by Péan of hæmostatic forceps for clamping the broad ligaments. These are not only far easier of operation than ligatures, but they are also more efficient and safer. In twelve hysterectomies, in which the clamp forceps have been used by the speaker, only two deaths have occurred. The details of the operation, as given by the reader, did not differ materially from those which are given by various operators. He advocated the use of creoline in a 2 per cent. solution as a dressing, and also the use of creoline gauze as a vaginal packing subsequent to the operation, though this packing was not used from fear of prolapse of the intestines, which seldom occurred. If the ovaries or tubes came into view during the operation they might be removed, otherwise they need not be disturbed. If clamp forceps were used, ligatures were seldom necessary, and as many as fourteen clamp forceps could be used if conditions required them. It was important to tie the handles of the forceps together as a safeguard against slipping. The gauze was usually left in the vagina four days, and then the forceps might also be removed. The reader did not think it necessary to close either the vaginal or the peritoneal wounds, and additional time would thereby be saved. In none of his cases had there been either hæmorrhage or infection. He had not used the cautery as a hæmostatic, as he had never found it necessary; there was also some danger in its use to the intestines and other structures. There was little discharge from the wound during the first week, and still less during the second. Patients were sometimes able to be about by the beginning of the third week. The hæmostatic forceps favor drainage, there is less danger to the uterus than with the ligatures,

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and they enable one to destroy diseased tissues which are not always accessible to the ligature. The longest forceps are not always best, those with a bite of an inch and a half are sufficiently long, and one need not try to take in too much tissue with a single instrument.

Dr. Thomas A. Emmett believed that an important point to consider was the duration of immunity from a recurrence of malignant disease which was to be obtained by such operations. If immunity could be obtained from two to four years, as it frequently was, he believed the operation was justifiable. Personally, he was inclined to favor the supravaginal amputation of the cervix as sufficiently radical, and had obtained good results from such operation. He thought the radical operation was indicated in sarcoma, while it was sometimes questionable in carcinoma. He was much in favor of an abdominal operation for extirpation of the uterus, a modification of Freund's operation, which had recently been performed by Dr. L. A. Stimson.

Dr. Andrew F. Currier thought there must always be a difference of opinion among operators as to a preference for a partial or a complete removal of the uterus for cancer. One's conduct in such matters would be largely influenced by personal experience and predilections. Another indication for the operation of hysterectomy was obstinate prolapse of the uterus, especially in women who had passed the menopause, and in whom other measures for the relief of this condition had failed. The point which was advanced by the reader of the paper as to the value of the hæmostatic forceps in shortening the duration of the operation of hysterectomy was a valuable one, and one which could be readily appreciated by one who had experienced the great difficulties which were sometimes experienced when the ligature was used. As to the instruments which were useful in performing the operation, the speaker favored those which were used by Martin; viz., the perineal retractor of Simon, lateral retractors, and a volsella in each lip of the cervix for drawing down the uterus.

Dr. Andrew F. Currier, of New York, read a paper entitled "The Disorders of Menstruation."

Dr. T. Jacobi had seen many cases of so-called vicarious menstruation in young girls, manifested especially in the form of nose-bleed. He did not think this bleeding was always due to disorder of the pelvic circulation. It frequently came from heart weakness, especially in the case of school-girls, who sat for hours at their tasks. He believed that in such cases treatment should be directed to the condition of the heart, and digitalis, sparteine, or strophanthus, in suitable doses, should be prescribed. He asked the reader of the paper what he would do to restore or to establish the menstrual flow in such cases.

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Dr. C. E. Lockwood, of New York (communicated), thought the special point in the paper was the improvement in the nomenclature of the symptoms heretofore expressed by the old terms "amenorrhœa," "dysmenorrhœa," "menorrhagia," and "vicarious menstruation." These have been loosely used to express a number of symptoms of, in great part, general and local structural, and in small part functional, disease. They are largely symptomatic, and the names are unmeaning and indefinite in many connections in which they have been used. Etymologically, amenorrhœa means absence of the monthly flow; but it has been used not only in this signification, but also as expressive of defective or scanty and vicarious menstruation. By menorrhagia is understood profuse monthly flow. Any suggestion which will reduce these terms to greater definiteness and system, and convey to the mind the condition and its etiology, is of value.

A paper by Dr. Henry C. Coe, of New York, entitled "The Early Recognition of Cancer of the Cervix Uteri," was read by title. The following is an abstract: —

The great frequency of cancerous disease of the uterus should impress one with the necessity of diagnosticating the disease before it has made such progress that operation for its relief is unavailing. The frequency of laceration of the cervix is also generally recognized, and it is strange that the serious consequences which may result from it should be so often overlooked. It would be well if general practitioners could impress upon the minds of their patients the importance of examinations for the timely discovery of such lesions. The writer agrees with Lusk in his opinion as to the valuelessness of the old classification of cancer into medullary, scirrhus, and colloid, — names which refer only to certain conditions of sight and touch, which are too often imperfectly appreciated. The importance of cachexia, hæmorrhage, and foul discharges has also been over-estimated in the formation of diagnoses. In more than 20 per cent. of the recorded cases of this disease the patients have been under 40 years of age. Pain is an element, also, which may not appear until late in the history of the disease. Various tests have been mentioned for the recognition of the disease in its early stage, but the writer would rely principally upon a general sclerotic condition of the hypertrophied cervix, associated with bleeding from the everted mucous membrane. The uterus is usually movable at this stage, and the cervix unsensitive, though tenderness is more frequently present then than after ulceration has occurred. Inspection of the diseased parts at such a time adds little to the information obtained by the touch. Stratz speaks of a sharp line of separation between the diseased and healthy tissue which may be seen at this early

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stage, the former occupying a somewhat higher level, while scattered through the latter will be seen yellowish-white nodules, which on section present a granular appearance. These phenomena are not constantly present, however, and are manifestations of that form of carcinomatous disease which begins with nodules beneath the mucous membrane. Schroeder believed that every papillary growth on the cervix with a broad base was cancerous, but that papillary ulcers surrounded by a zone of follicles were usually benign. Removing a portion of suspected tissue for microscopical examination is an excellent plan, but it does not always enable a pathologist to advocate with positiveness so radical an operation as hysterectomy. It may be necessary to examine many sections from many specimens before positive conclusions can be reached.

Waldeyer's definition of cancer as "an atypical epithelial new-growth" has been shown by Fie to be insufficient, as the same atypical cell process may be seen in sections of a simple erosion. The process must not be limited to mucous membrane, but must invade the muscular tissue so that the muscle is partly replaced by granulation tissue in order that a positive diagnosis of cancer may be made. Diseased tissue being discovered, the only proper course of treatment consists in its thorough removal. This operation may be performed by any general practitioner who is competent to perform Emmett's operation. A more radical operation than simple excision of diseased tissue should, of course, be performed in any case in which it is clearly indicated.

The following paper was read by Dr. Willis E. Ford of Utica, N.Y., on "Galvanism in Gynæcology:" —

If a constant current of electricity be passed through living tissue, certain changes are brought about, due partly to chemical decomposition and the separation of the fluids of the tissues, and partly to a change in the nutritive processes produced by polarization of the ultimate molecules of matter. The results obtained depend wholly upon the character of the current used. From the study of electricity itself and a proper appreciation of the various qualities of a current, as much may be expected as from the study of the morbid conditions for which it is prescribed. Dynamic electricity of great volume or *ampèrage* is capable of great destructive power, just in proportion to the quantity of zinc acted upon within the battery. While such a current may be capable of producing cautery effects, it will not push its way through dense tissue for any distance. For this purpose a number of independent elements connected in a series is necessary. The *voltage*, or the pressure power, of a current is as important, therefore, in therapeutics as is quantity or *ampèrage*. It has been found that a current that is strong enough to push its way

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through a fibroid tumor of the uterus as large as a cocoanut, must possess the pushing power or tension of from twelve to sixteen volts. If, therefore, the battery used for the purpose of dispensing fibroid tumors has this requisite *voltage*, the *ampèrage* may vary within certain limits and yet good results be obtained. A battery with large cells gives no greater *voltage* than a battery with small cells and small elements, while the *ampèrage* of the battery depends wholly upon the size of the elements used. The reader was convinced that one of the reasons why galvanism is not more generally and successfully used is that portable batteries, or batteries having but a single fluid, as they are constructed by the instrument-makers are wholly inadequate for the purpose. The two fluid batteries, on the other hand, are so expensive that few practitioners possess them. The ordinary bichromate-of-potash battery, which is unquestionably the best form of battery, will answer every purpose if the cups in which the elements are immersed are sufficiently large that the current may not run down. Such a battery of fifteen cells, holding a quart each, with some simple contrivance by which the zincs and carbons can be readily lowered into the fluid, makes a most perfect instrument for gynæcological practice. The *ampèrage* or volume of a current is easily regulated by the depth to which the zinc and carbons are plunged in the fluid, while the tension or *voltage* or pressure of the current is regulated by the switch-board, depending entirely upon the number of cells used. The foregoing description has been thus minute, since the results in the practice of the reader have seemed to depend largely upon the quality of the current. A galvanometer is of but little service, while a set of Brenner's resistance coils attached to the cabinet batteries is rarely used, the milliampèremetre being the chief guide. The volume of the current may be so large, however, that the latter is not always a safe guide; for instance, if a current from twelve cells is used, and the elements have an exposure to the fluid of forty square inches each, great care must be taken to prevent the vaginal electrode from cauterizing the tissue, even if the milliampèremetre marks but one hundred or one hundred and fifty. There seems to be no guide other than experience regarding the safety of currents of large *ampèrage*. Where twelve or more such cells are used, the reader had found it unsafe to have more than twenty square inches of zinc surface exposed in each cell, if the fluid is fresh. If pain is produced by the electrode in the vagina, it is evident that the limit of intensity has been reached. If the electrode is held firmly against a fibroid mass, and the voltage is increased until the milliampèremetre marks one hundred and fifty to two hundred, and there is still no pain in the vagina, no harm will be done. In removing the products of circum-uterine inflamma-

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tion, a current of large *ampèrage* will be the most efficient; that is, about one hundred milliampères. The author's first paper upon the effect of galvanism in peritoneal adhesions was published in the "Medical Press" of Western New York for April, 1888, and stated what was believed to be entirely new at that time; namely, that peritoneal adhesions about the pelvic organs and even about the abdominal viscera can be effectually removed by means of the stronger galvanic current. These conclusions were reached from the behavior of fibroid tumors under treatment in cases in which there had been localized peritonitis with fixation both of the tumor and of the adjacent organs. Pain was speedily relieved, and the tumors became movable even before there was any perceptible diminution in their size. This occurred so uniformly that it seemed evident that galvanism must be an efficient agent for the removal of organized inflammatory exudates. In the paper referred, fifteen cases of fibroid tumor were reported and four of peritoneal adhesions. Further experience has led to a modification in the method of using this agent, and also to the conclusion that the current used ought not to be the same in cases of chronic pyosalpinx as in the denser fibroid tumors. In the latter it has usually been found that a current generated from small cells, and having therefore comparatively small *ampèrage* but high *voltage*, is the most useful. On the other hand, the same currents when passed through a mass of exudative material surrounding or near the uterus has, in several instances, excited a new inflammatory process, and has not secured ready absorption; as in cases in which the current had greater electrolytic power, and in which the milliampèremetre marked only eighty to one hundred. That a proper current of galvanism will stop the growth and diminish the size of uterine fibroids is no longer questioned; but how much may be accomplished by this agent in the removal of products of inflammation has not yet been fully determined. The author used galvanism in sixty-four cases during the year 1888, thirty-one being hospital and thirty-three private cases. Of these, nineteen were fibroid tumors of the uterus, eleven being subserous, four submucous, and four intra-mural. There were five cases of chronic pelvic peritonitis with extensive adhesions, seven of localized pelvic peritonitis,— in which the adhesions were limited to one locality,— four of hydrosalpinx, four of chronic pelvic cellulitis,— the exudate having matted the organs involved into one mass,— nine of retroversion of the uterus with fixation, ten of chronic metritis, one of chronic ovaritis, three of acute anteflexion with metritis. Of the four cases of hydrosalpinx, one discharged into the bladder, one into the rectum, and one into the vagina. In no case did a subperitoneal or an intra-mural fibroid disappear entirely, no matter how long the galvanism was used, but the

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growth was checked and the troublesome symptoms disappeared. Very large masses with accumulations of fluid about them improved most rapidly, and the fluid disappeared in all cases. The current in such cases was of a strength of two hundred milliampères, and was sent directly through the tumor, from side to side of the abdominal wall. In other cases, the negative electrode was placed in the vagina against the projecting mass, the positive electrode being upon the abdomen, and consisting of a large dispersion plate of copper covered with French punk and chamois.

Intra-mural growths are best treated by the abdomino-vaginal method. In two or three cases submucous fibroids disappeared, all bleeding being stopped, though that was not accomplished suddenly. It was not found that the positive electrode exerted a more beneficial effect than the negative, and the former was rarely used in the uterus or vagina. A current of fifty to one hundred milliampères was all that was necessary to remove inflammatory exudates in every case, so that the conclusion was reached that persistency and skill were all that were necessary, in all such cases, to ultimate success, if the general health were fairly good. The fluid of a hydrosalpinx and the enlargement of an ovaritis will alike disappear by this means of treatment. In a few cases of acute anteflexion with chronic metritis the platinum electrode has been passed just beyond the curve in the uterus, and has caused slight sloughing with the use of a current of large *ampèrage;* the result has always been satisfactory. If the patient is debilitated, and the exudate around the broad ligaments recent, inflammatory symptoms may occur if an attempt is made to cause absorption by galvanism. The author stated that he had never seen any harm follow the passage of the strongest current through the abdominal viscera. Healthy tissues in which there is a normal quantity of fluid furnish a good conducting medium for electricity, while the new connective tissue which contains almost no blood-vessels is a very poor conductor, and is thus susceptible to the effects of the current. The author had not used the puncturing needles of Apostoli in any case, and he had had no serious accident, though he frequently observed that the general health of the patient was not so good when under active treatment as previously, and also that it was sometimes two or three months after the galvanism was stopped before the full benefits of the treatment were appreciated. The number of applications should vary between twelve and twenty, and the intervals between them should be four days.

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OBSTETRICAL SOCIETY OF PHILADELPHIA.

THURSDAY, JAN. 3, 1889.

Dr. THOS. M. DRYSDALE in the chair.

Dr. H. A. KELLY exhibited the specimen of a *carcinoma of the corpus uteri.*

Mrs. F., age 45 years, married, applied to him in October, 1888, for the relief of persistent uterine hæmorrhage. She was the mother of two children, twenty-three and nineteen years ago. Her health was always good until 1886, when the present trouble began, as if her menstruation was appearing too frequently. The discharge soon became constant. The only impression made upon her general condition was a marked anæmic, sallow cast of the skin. Aside from this she suffered from an agonizing pain in the right ovarian region. The uterus was anteflexed, very large, measuring three and three-fourths inches in length, choking the pelvis, emitting a sanious, fetid discharge. She was admitted to the Kensington Hospital, and a handful of *débris*, looking like a sloughing fibroid, removed by scraping. This proved to be cancerous, and in the presence of Drs. D. Emmett, Vauness, and Gramm, assisted by Dr. H. Robb, he removed the uterus by vaginal hysterectomy. On account of the severe pain she had felt since February last, and the impossibility of outlining the structure in the choked pelvis, he feared some infiltration into the broad ligaments, a contra-indication to vaginal hysterectomy. He therefore made a preliminary exploratory abdominal incision, passed his fingers in carefully, explored the pelvis, found it free, got his bearings for the subsequent operation, and closed the incision in ten minutes. The operation was done with great difficulty, owing to the great size of the uterus. The worst bleeding came from the incision in the vaginal walls. The tissues above this were tied off in small bundles with silk ligature. He tried to follow the plan advocated by his friend, Dr. Dudley, of Chicago, of clamping the vessels; but the uterus was too large, and he could not introduce his finger and fix the clamps at the same time. The right side was freed first, the uterus delivered, and the left side pulled without the vagina, and the left broad ligament tied off and a uterus freed the size of a three months' pregnancy. The vagina was packed with iodoform gauze, which was renewed in a few days. The ligatures did not all come away until several weeks had elapsed. Her recovery was interrupted by a variety of curious complications, which it would take too much time to describe. It could be noticed that the uterus exhibited the specific differences between cancer of the

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corpus and of the cervix uteri. When first removed the inner surface of the uterus was covered with a greenish slime, very stinking. The whole mucosa of the body was a mess of polypoid excrescences of variable size. The uterine ends of the tubes were not affected with the disease, nor was the cervix.

Dr. Kelly also exhibited two large sarcomatous ovaries, removed from a woman 43 years of age. She had a marked cachetic appearance, suffered with knife pains in the lower abdomen, and had had metrorrhagia for sixteen months. He found two large irregular masses in her abdomen, which were obscured by fluid in the peritonæum. The uterus was jammed against the symphysis. At the operation, after tying off a number of omental adhesions to the right mass, it was found to be a soft, friable tumor with a sessile attachment involving the whole broad ligament. The tumor broke down and bled profusely upon raising it. The broad ligament was quickly tied off by an interlocking series of interrupted sutures. The lateral wall of the uterus continued to bleed actively, and he had to resort to a device which has saved lives for him on several occasions. The cornu uteri was caught in a pair of bullet forceps and raised forcibly up into view and carried over to the left side, while he passed a stout ligature in the cervical region deep through the uterus, with a view of tying the uterine artery. This checked the hæmorrhage. The tumor behind the uterus came out in handfuls, leaving a bare, left broad ligament, which was treated in the same way as the right, including the ligature to the uterine artery. A drainage-tube was left in, and the incision closed. Five hours later he was called to see her, and found a steady venous flow from the tube, which had saturated all the dressings. He put her under chloroform at once, placed the operating table directly under a side gas-light, and cut all the stitches, turned out all the intestines, and found an active flow from a spot in the right pelvic wall. She made a good recovery as far as the local trouble was concerned, but a mass at the pylorus leaves room for suspicion that the disease in the pelvis was not the only focus. The tumors proved to be soft, round-celled sarcomata. This is the second case of sarcomatous disease of the ovaries he has operated upon. The first was a young girl of twelve. Both cases recovered.

Dr. Wm. Ashton exhibited a specimen of *ovarian sarcoma*.

Mrs. Sarah G., age 35 years, was admitted to the Jefferson Hospital on the 27th of last November. Puberty at 15 years, always regular, except when pregnant, up to two years ago, when her last child was born. At this time noticed a small tumor in hypogastric region and to the right side. During the first year the growth was slow, after which it increased rapidly in size. She had lost a great deal of flesh, and was much ema-

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ciated. A diagnosis of ovarian sarcoma was made by Professor Parvin. Through Dr. Parvin's kindness, he operated on the woman a few days later, assisted by Dr. Baldy. The tumor was found to fill the whole of the abdomen, and was universally adherent. Many of these had to be tied, and when the mass was removed it was found that the whole posterior portion of the bladder and the anterior portion of the uterus, as well as the fundus, had been adherent to it, and these points of adhesion oozed freely. Ligatures and Monsels sol. were used freely and the bleeding stopped. The whole cavity was then thoroughly irrigated with warm water and the incision closed, with drainage. She died in six hours, of shock. An examination of the specimen by Dr. Coplin shows it to be a spindle-celled sarcoma, with points of beginning degeneration and some points of slight hæmorrhage.

Dr. WILLIAM S. STEWART exhibited the cyst of an ovarian tumor, weighing eighty-four pounds.

The operation was performed upon Mrs. ——, age 61 years. General health good. No marked emaciation. Abdomen enormously distended. Faciæ ovarianæ very perceptible. He made an incision about two inches in length — sac was emptied rapidly by a large trocar. Found general adhesions to the anterior abdominal walls; these were separated by a rapid sponging off, which has proved of advantage in preventing hæmorrhage and traumatism. The cyst was delivered as the adhesions were sponged off. Operation lasted forty minutes. No irrigation; no protrusion of bowels or omentum; slight oozing; glass drainage-tube; only five stitches needed to close incision. Weight of sac and contents was eighty-four pounds. He was assisted by Drs. Joseph Price, W. H. Kirk, and Dill. Having seen the patient these three succeeding days, found everything progressing favorably. Temperature normal, pulse 84, respirations 22, oozing about ceased, drainage-tube removed to-day.

Dr. J. PRICE read for Dr. R. Stansbury Sutton, of Pittsburgh, the following: —

Operation for Congenital Deformity.

Miss A. P., æt. 20. Never menstruated. Has severe pain in lumbar region, abdomen, and head every month, but no flow. Vagina short, cervix uteri not felt anywhere; no uterus discoverable by bimanual palpation through the rectum. Often vomits, is unfit for work, is melancholy. Laparotomy Dec. 10, 1888. Uterus unilateral, one horn half an inch long, as thick as the first joint of the little finger. On the left side uterus not developed; no lig. lata., no tube, no ovary. On right side small lig. lata., large tube, and full-sized ovary, with two distended egg cells on surface. Ovary and tube removed close to cornu of the one-half

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uterus. The external genitalia were fully developed — the vagina about one-half ordinary depth and blind at upper end. A note from Dr. Sutton, dated January 1, says Miss P. has gone home well; all of her morbid symptoms, mental in character, are gone. He adds that he has had thirty-four ovarian consecutive operations, with one death; and twenty-seven sections of all kinds done, with one death. All hospital work.

Dr. C. P. NOBLE read *A New Method of Diagnosis in Obscure Cases of Entero-Vesical Fistula.*

He had been recently asked by Dr. C. M. Wilson to see a patient supposed to be suffering from fistula. It was not his purpose to report the case in full. Briefly: The woman had what is called an ischio-rectal abscess about five years before. Some time after this abscess discharged, she stated that she began to pass wind and small pieces of fæcal matter *per urethram* at irregular intervals. No symptoms of bladder irritation existed. An extensive cicatrix following ulceration, produced by a pessary, is present in the vagina. It extends along both sides of the vagina, and across the posterior fornix (behind the cervix). In view of the absence of bladder irritation and the well-known haziness of the knowledge of anatomy possessed by the laity, it was thought likely that, if the fistula did exist, it was a recto-vaginal fistula. A careful examination under anæsthesia by touch and sight, made by Drs. Wilson, Hawley, himself, and others, failed to demonstrate the existence of any fistula communicating with the vagina. But two conclusions could be drawn: either the woman was right, or else she was a malingerer. The latter seemed probable from what was known of her. It was suggested that a careful and extended study of the urine, made with the miscroscope, might determine the diagnosis, — particles of vegetable fibre or seed of small fruits might be found. This plan involved much labor and time. It occurred to him that the hydrogen-gas test would settle the matter quickly and positively, and he suggested that it be employed. The recommendation was accepted and followed the next day. Dr. Wilson forced the gas into the rectum, and lighted the gas at the end of a catheter introduced into the bladder. Dr. Noble was unable to be present at the time, but Dr. Wilson told him that no gurgling sound was heard (caused by the gas passing the ileo-cæcal valve), hence it seems plain that the communication exists between the bladder and large intestine. Dr. Noble offered this as a new and valuable method of diagnosis in obscure cases of entero-vesical fistula; or, if you choose, a new application of Senn's hydrogen-gas test.

Dr. C. M. WILSON reported a case of *lack of development of the fingers and toes in a child delivered at term.*

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The mother of the child applied for admission to the Philadelphia Lying-in Charity, Nov. 29, 1888. Upon examination she was found to be in active labor, and was immediately admitted to the lying-in ward. The membrane had ruptured, the amniotic fluid had escaped, and dilatation was nearly completed. The labor terminated naturally and with great rapidity, the second stage lasting but one hour. The woman was a primipara, married, a native of Philadelphia, and a housemaid by occupation. Age, twenty-five years. She stated that she had experienced no fright or trouble during her pregnancy. She gave a very clear account of the members of her own and of her husband's family, and stated that no deformity had existed on either side for at least two generations. She made a rapid and normal convalescence from her delivery. The child weighed eight pounds, was fully developed, with the exception of the deformity noted. The deformity consists in a lack of development of the majority of the phalangeal joints of the fingers of both hands and of both feet, in the absence of the nails upon nearly every finger and toe, and in the web-like folds of skin connecting several of the fingers of either hand together. The appearance of the constricting band on the right great toe would seem to give color to the idea that possibly the deformity was due to intra-uterine amputation. The fact that some of the finger-tips sloughed off after birth would seem to strengthen this supposition. He believed, however, that the deformity was due to lack of development. No history of syphilis on the part of either parent could be obtained.

Dr. PARVIN presented the *sexual organs of a young girl*. They are among several which he procured in Munich last summer for the purpose of teaching students practically many of the operations upon such organs, by the method proposed and pursued by Professor Winkel; that is, the organs being properly fastened within, and upon Schultze's obstetric phantoms, many of the more common operations can be made by the student as upon the living subject. This much was said to explain why he had no history of the subject from which the specimen was taken. It will be observed that there is a very perfect annular hymen, one of the rarer forms of this structure, and its borders are quite regularly dentated. The bladder, apparently, has its walls somewhat thickened, though probably not really; but certainly they seem very thick in comparison with the uterine walls. These latter are so thin that there is in this regard a hypoplasia of the uterus, and thus a uterus membranaceus, but the organ in length and breadth seems fairly developed.

Dr. PARVIN also presented an *obstetrical manikin*.

The obstetric phantom shown, he had made in Munich, and represents a design he had entertained for many years, in fact since the

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beginning of his obstetric teaching. He wished a complete human form, that could be put in the different positions a woman occupies in labor,—natural, manual, or instrumental. The joints are sufficiently mobile so that the model can be placed on the side or on the back, the limbs put in any position desired. The pelvis is of iron, covered with leather, and has a movable coccyx, while the external parts are made of rubber, which will dilate so as to admit the passage of a fœtus. The abdominal cavity is ample for the introduction of two fœtuses. One or both may be included in the rubber uterus, designed by Professor Winkel, and thus placed in that cavity. For the suggestion of a cast-iron pelvis—a model of the best one found in the Museum of the Munich Frauen-Klinik being made, by which the cast was formed—I am indebted to Dr. J. Clifton Edgar, of New York, then a resident obstetrician in the Klinik. Dr. Edgar, who remained in Munich several weeks after I left, during his stay superintended the work, and doubtless I am indebted to his intelligent supervision, suggestion, and direction for the successful manner in which the workmen carried out the original design. The model will be useful in gynæcological as well as in obstetric teaching, in that the different positions in which the patient is placed in examinations and in operations can be readily and plainly illustrated. The only addition which it seems to me at present might be usefully made is a rubber abdominal wall similar to that of Budin's well-known obstetric manikin.

Dr. J. C. DaCosta did not think that "annular hymen" was so very rare. He had seen some cases, and among them one that was very marked. The woman had been married some two years, had been pregnant, and had aborted at four or five months. Coitus was excessively painful both to the husband and to the wife, and in the wife was frequently followed by attacks resembling epilepsy. The hymen was "annular," smooth, unbroken, and elastic, grasping the finger when introduced like a firm rubber ring. Cutting the hymen cured all the trouble both of husband and wife.

Dr. Kelly remarked that the condition of the hymen was a subject of much interest, about which many erroneous views prevailed. It was by no means uniformly ruptured by coitus. In other cases coitus alone was as capable as numerous pregnancies in obliterating all traces of the hymen. He had made many observations and careful drawings of a number of cases which showed a definite relation between a certain condition of the hymen and the severity of a preceding labor; that is, where the vaginal outlet has been broken down with extensive laceration, the hymen remained *intact* except at the split posteriorly, being saved by the vaginal tear. On the contrary, the surest way of thoroughly destroying the in-

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tegrity of the hymen was the equable, all-around dilatation of a *normal* labor. In a forceps case examined some months after labor, the hymen, elsewhere intact, was as clearly cut into halves as a lacerated cervix. It is unquestionably, as Budin has shown, the pointing terminus of the vaginal canal.

Dr. B. C. HIRST showed a specimen of *endometritis gravidarum polyposa* from the University Museum; there are in the museum two other examples of the same sort, one recently contributed by Dr. R. Deaver, of Germantown. In the last case the embryo was certainly not over three weeks old; the ovum corresponded to the third month, and had been retained in utero some six months after the death of the embryo. They are all very good specimens of a very rare disease.

He also stated that there was a rachitic dwarf in the out-wards of the Philadelphia Hospital, 55 years old, 48 inches in height, with the following pelvic measurements: Sp. il. = 24 cm., cr. il. = 22 cm., extern. conj. = 13½ cm., r. oblique = 18½ cm., l. oblique = 18½ cm., distance between trochanters = 27 cm., circum. of pelvis = 68 cm.

He also showed a *pregnant uterus*, removed from a woman with chronic nephritis, who died suddenly from apoplexy within three months of term. She had been blind for three weeks before her admission to the hospital, and was œdematous in face and extremities. As soon as his attention was called to the case he ordered premature labor to be induced, but before this could be done the woman died. The uterus showed, on abdominal palpation, an apparent right lateral version. On opening the abdomen this was seen to be due to the attitude of the fœtus (vertex presentation, O. L. A.). The uterine body extended equally to both sides of the median line, but had not the pyriform shape supposed to be characteristic of the pregnant organ. It was irregularly triangular in form, the base of the figure being to the right side, the apex to the left. This would give one the impression, on abdominal palpation, of right lateral version, from the fact that the highest point of the uterine fundus was to the right side; but this point corresponded to that angle of the uterine cavity on which lay the trunk and extremities of the fœtus.

Dr. HIRST finally read the following: —

"M. M., aet. 39; widow; has had four children: youngest, 6 years old. Six weeks ago the patient attempted to lift a heavy weight, and was immediately seized with sharp pains in the left groin. This occurred just at the commencement of a menstrual flow, which was unusually profuse and painful. The bleeding had in fact continued until the present time (Nov. 8). On this day the woman came, by a rather long horse-car journey, to the Philadelphia Hospital, to visit her daughter, a patient in

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the wards; in the hospital she was suddenly seized with great pain, and sank to the ground from weakness. She was carried to the medical wards, where an examination showed some form of pelvic or abdominal tumor. She was consequently transferred to the gynæcological floor. A vaginal examination showed a mass of considerable extent to the left of the uterus, and, apparently, a cystic tumor in Douglas' pouch. Laparotomy was done the next morning. As soon as the peritonæum was cut through, there welled out through the opening a large quantity of dark-colored blood. The incision was enlarged, the intestines turned out and wrapped in warm towel, a pint or more of blood sponged out, and a careful examination made by inspection and touch. The left broad ligament was distended by a tumor, made up, as far as he could tell, of clotted blood. Near the uterus there was a ragged opening, into which he could put the tip of his little finger. During the half-hour the abdomen remained open there was no hæmorrhage from this spot, and had evidently been none recently, for there was no fresh blood in the abdominal cavity. His diagnosis, naturally enough, was ruptured tubal pregnancy. As the embryo, if one existed, was too small to give future trouble, and would be absorbed, he simply cleaned the abdominal cavity, picked adherent clots off the intestines, and closed the wound without drainage. The convalescence was entirely favorable. He has been inclined since to alter the diagnosis. The woman, on close questioning, absolutely denied the possibility of impregnation. This fact, together with the history of great muscular effort at the beginning of a menstrual period, and the subsequent behavior of the patient, would naturally suggest the possibility of a rupture of a blood-vessel in the broad ligament. The acute attack of pain and weakness two days before the operation might be explained by a rupture of the peritoneal covering of the effused blood, with an escape of clots, and a fresh hæmorrhage into the peritoneal cavity."

The following officers were then elected: —

President: THEOPHILUS PARVIN, M.D.

Vice-Presidents: W. H. H. GITHENS, M.D., and J. C. DACOSTA, M.D.

Secretary: J. M. BALDY, M.D.

Treasurer: ALFRED WHELIN, M.D.

J. M. BALDY,
Secretary.

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ESTIADA. — TREATMENT OF UTERINE FIBRO-MYOMATA. — *Nouv. Arch. d' Obst. et de Gyn., 1888.*

HYSTERECTOMY affords, of course, a radical cure for uterine fibro-myomata, but it is an operation of great danger, the average mortality of all published statistics being 33 to 35 per cent. The mortality rate is diminishing, especially by the extra-peritoneal method of treatment. The average mortality after castration for fibro-myomata, according to Wiedon and Tisier, is 14.6 per cent., and a series of seventy-six cases is recorded in which the mortality was only 4 per cent. The operation is, therefore, one of far less gravity than hysterectomy. Hysterectomy is indicated, according to Savage, Thomas, Hegar, Kaltenbach, and others, —

1. When the patient is young, and the tumor has grown uninterruptedly.

2. When hæmorrhage is so persistent that there are no available means for stopping it.

3. When the patient is more than 40 years of age, and the tumor is growing rapidly and compressing organs which are contiguous to it.

4. When there is ascites, pain, and inconvenience of all kinds.

5. When the tumor is smooth and œdematous.

6. When the tumor is fibro-cystic, and suppuration has occurred.

7. When unfavorable changes have taken place in the tumor or neighboring organs, such as cystic, myxomatous, or sarcomatous degeneration, peritonitis, or torsion of the pedicle.

8. When there are symptoms of strangulation of internal organs.

9. When there is complete prolapse of the uterus.

With regard to prevailing opinions concerning the value of castration, —

Chiara believes that the removal of the tubes and ovaries, by inducing the menopause, has a beneficial effect upon fibro-myomata.

Hegar and Kaltenbach favor castration, if it is impossible to remove the tumors, when the latter are large, when hæmorrhage is profuse, and compression of the viscera endangers life. The operation is also indicated if the cervix is very short, the tumor immovable, if there are extensive adhesions, if the tumor has developed within the ligaments, if the ligaments are hard or inextensible, and if it appears to be difficult or impossible to convert the cervix uteri into a pedicle.

Emmett is unwilling to admit that castration influences the nutrition of fibro-myomata, and believes that the collateral circulation is quickly established after the operation has been performed.

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Lawson Tait believes that the removal of the adnexa of the uterus is an operation of incontestable value.

Duplay advises removal of the adnexa —

1. In cases in which the hæmorrhage is uncontrollable.

2. In those cases of moderate, or even small, tumors, in which hysterectomy would be impossible, or probably fatal. Both the tubes and the ovaries should be removed.

Lucas Championière believes in the advisability of removing the ovaries for the relief of myomata, but thinks the removal of the tubes is of little consequence. If a pediculated subserous myoma is removed, castration should be performed at the same time.

Segoud believes that castration is an operation of great value for all myomata, whether large or small; any of these growths may give rise to hæmorrhage, to pain, or functional derangements.

Terrillon has found that the operation gives the best results when the depth of the uterus is not more than eleven to fourteen centimetres. If it measures eighteen to twenty centimetres the result is not apt to be favorable.

Richelot believes that fibro-myomata should be treated according to the conditions which obtain; abdominal extirpation, vaginal extirpation, and castration being all indicated in suitable cases. If one of the ovaries is inaccessible, castration being indicated, one must be satisfied with the removal of the other; the same being true of the tubes. If both ovaries are inaccessible, one is limited to passing large ligatures around the uterus in the hope of producing atrophy. Castration should be the operation of choice, if possible. Hysterectomy will be required, in which serious difficulty exists on account of compression or infection in cases in which there is gangrene and suppuration of the tumor, peritonitis, intestinal strangulation, etc. In general, hæmorrhage and pain justify the removal of the adnexa, and if the symptoms are subsequently reproduced or aggravated, hysterectomy will also be required. If, in the course of an ovariotomy, uterine fibroids are found, the ovary and tube of the other side should be removed, even if apparently healthy.

A. F. C.

MENIÈRE. — INFLAMMATION OF UTERINE FIBROMATA. — *Gazette de Gynécologie.*

Acute inflammation of fibromata of the uterus is named by the author fibro-myeritis, or fibromitis. It is especially liable to occur among women twenty-five to thirty years of age, or during that period when the func-

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tional activity of the uterus, independently of pregnancy, is at the maximum. The cause is usually a traumatic one, the inflammation of the fibroma beginning histologically with anæmia, and this being followed by vascular congestion. The inflammatory state is characterized by pain, which may be spontaneous or provoked, at the sight of the tumor. Its beginning is brusque, with general debility of the patient, want of appetite, nausea, vomiting, and swelling of the tumor. The increase in size is progressive, and the pain may be very severe and suggestive of hepatic or nephritic colic. There is not always a chill in connection with the fever, and the rise of temperature may be moderate for three or four days. The vaginal discharge which is common with these growths disappears during the first few days of the inflammatory process, but suddenly reappears, first as a leucorrhœal and then as a bloody discharge, though it never becomes a true bloody flux. The consequences of the fibromitis will differ with the subsequent history of the inflammation, which will oscillate between congestion and suppuration. In the latter case the phenomena are the same as in circum-uterine phlegmon, and the pus may be eliminated by the rectum, the bladder, or the muscles of the abdomen.

A. F. C.

ENGELMANN. — THE USE OF ELECTRICITY IN GYNÆCOLOGY. — *Anales de Obst. Ginecop. y Pediat., October, 1888.*

The author's paper was read before the Berlin Obstetrical and Gynæcological Society. He observed that electro-therapeutics had excited no interest in Germany in gynæcological circles on account of the brilliant results which had been obtained by purely surgical means and the insignificant ones obtained by electricity. In recent years, however, electro-therapy had made much progress, owing to the ability to administer the currents with exactness, the application of very strong currents, and the development of the polar method, the application of which was favored by the form and situation of the female sexual organs, which enable one to limit the action of the current to the part which is affected, the active pole being located in or above the diseased tissue, while the abdominal integument offers a large surface for the neutralization of the indifferent pole. The application of strong currents becomes possible, on account of the slight resistance of the pelvic viscera, the slight sensibility of the organs, and the possibility of using a large electrode, by means of which the current in the indifferent pole may be distributed. Gynæcological electro-therapy differs from general electro-therapy, and electricity should not be considered as a single remedy, but as a group of remedies which produce

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varying results according to the mode of application; thus it may be a sedative or a stimulant, it may increase the flow of blood or restrain it, according to the nature and force of the current and the form and material of the electrode. The action of the intra-polar current is not an indefinite one, but positive results are often visible at the active pole in the interior or at the surface of the diseased tissue. Electricity must not be considered as a specific nor as a panacea, but as a valuable resource in certain cases, either as a primary or a secondary remedy. The only contra-indication is the idiosyncrasy which certain nervous women show to one or the other current in the shape of disagreeable sensations which are induced.

An important condition is that the apparatus, and especially the electrodes, be properly arranged, especially with regard to the disposition and distribution of the indifferent pole.

A. F. C.

POOLEY. — THE PRODUCTION OF PREMATURE LABOR IN AMAUROSIS AND AMBLYOPIA IN RELATION TO THE ALBUMINURIA OF PREGNANCY. — *El Progreso Ginecol. y Pediatra, Nov. 10, 1888 (Abstracted).*

Among the indications for bringing on labor prematurely, on account of albuminuria, are certain disturbances of vision, among which are the following: —

1. Uræmic amaurosis, more or less transitory and complete, without notable phenomena at the fundus of the eye.

2. Neuro-retinitis albuminurica, or of Bright's disease, which is characterized by a gradual weakness of vision, with characteristic modifications of the retina and optic nerve. These modifications are so uniform and appropriate that they alone would enable one to diagnosticate the disease. In view of the gravity of these conditions, the author draws the following conclusions: —

1. In all cases of pregnancy, one should not remain satisfied with a simple examination of the urine for albumen, but should examine the eyes with the ophthalmoscope. In cases in which the kidneys are involved, the changes in the eyes may take place before albumen appears in the urine.

2. In uræmic amaurosis, without visible changes in the eyes by ophthalmoscopic examination, there may be other symptoms, such as vertigo, nausea, convulsions; and artificial abortion is indicated before the life and vision of the patient are endangered.

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3. In neuro-retinitis, with grave organic lesions of the retina and optic nerve and progressive loss of vision, especially if occurring during the last months of pregnancy when the fœtus is viable, artificial abortion is not only justified, but imperiously indicated. In rare cases it is not well to wait until the period of viability, but to terminate the pregnancy during the early months of gestation.

4. In cases in which ocular disturbances have resulted during a former pregnancy, and have remained until artificial abortion was produced, a recurrence of pregnancy will demand the same treatment should analogous disturbances recur. The responsibility for this decision must rest with an oculist who can properly weigh objective and subjective symptoms.

5. Women who have already suffered with these ocular lesions during pregnancy, and are predisposed to them, should be warned of the relation of cause to effect in this matter.

A. F. C.

TWO CASES OF ABSENCE OF THE UTERUS AND VAGINA.

BY DR. BRUNES.

(*Translated from the Norsk Mag. for Lägevidensk, 4 R. iii., 1888.*)

I. The first case was a girl 19 years of age, well formed, and with well-developed breasts, who had never menstruated as yet, had molimina, which appeared at nearly about the monthly period. These, however, had ceased for some time, and up to date, about four years, had not returned. The patient referred this condition to chlorosis and cardialgia, from which she suffered. The external genital organs were normal. The rugous hymen permitted the passage of a finger, but immediately behind it the vagina ended blindly. By bimanual examination through the rectum and abdominal wall, no continuation of the vagina could be felt. But above the ligamentum latum could be marked out, in which some inequalities and thickenings could be perceived, indications of the uterus, Fallopian tubes, and ovaries.

II. The second case was a woman about twenty-one years of age, well built, and with well-developed breasts, who suffered from cardialgia and chlorosis, who had never had a sign of menstruation. The external genitals were normal, the clitoris large, and in the vulva there was a puckered opening having the appearance of a hymen. Anterior to this there was another opening with rugous margins, — the urethra. Through this the index-finger could be easily introduced as far as the second finger-joint. To introduce the finger further was only possible by applying great force,

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so that dilatation through coitus could not be regarded as possible, and even after three years there was no increase in its calibre. No trace was to be found of the vagina, uterus, broad ligaments, and ovaries.

In a third case, reported by Christian Lund in the "Norsk Mag. for Lägevidensk," 4 R. ii., 1887, in a girl 18¼ years of age, the breasts were rudimentary, the clitoris distorted, the vagina narrow and ending blindly at about the depth of two centimetres. The mons veneris protruded somewhat prominently towards the left; beneath the skin and adipose tissue, immediately anterior to the inguinal canal and the ascending ramus of the os pubis, a small, somewhat soft body of the form and size of an almond in its shell was to be felt. On this there was distinctly to be felt something resembling a small epididymis fimbriæ, from which a ligament appeared to pass upward through the inguinal canal; and according to Lund's view, this, the ovary lying outside of the abdominal cavity, was an *ovarian hernia*. Underhill communicated a similar case in "Schmidt's Jahrb.," clxxi., p. 171.

A uterus was not with certainty to be discovered, yet it may be possible that a rudimentary uterus might be found at a post-mortem examination, as in a case reported by Kaurin, in "Norsk Mag.," 3 R. viii., 6, p. 381, 1878, in which, also, during the life of the patient no uterus was to be found; yet at the post-mortem examination a small rudiment of one, together with normal ovaries and partly permeable Fallopian tubes, were found.

P. P.

LECTURES ON ECTOPIC PREGNANCY AND PELVIC HÆMATOCELE.

BY LAWSON TAIT, F.R.C.S. EDIN. AND ENG., LL.D.

In this monograph of one hundred and seven pages are offered the results of the experience, study, and original thought of one who has certainly had a wider and happier opportunity of observing these conditions than has ever before fallen to the lot of any man. The doctrines here maintained, and the surgical measures which are the natural result of the clear thinking, bold attempting, and skilful operating of the distinguished author, certainly mark an era in surgery, and form a "*Monumentum ære perennius*" to the man who has been, and by his teaching and example will be, the means of saving so many wretched women from destruction.

As is already known, the author regards all ectopic gestations as in their origin tubal, a possible exception being the impregnation of an ovum in its vesicle before it leaves the ovary. He accepts the clinical division

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of the cases into "those in which the fertilized ovum becomes attached to the wall of the tube where it is free from uterine tissue, and those where the ovum cavity is formed by the distention of the tube at that part imbedded in the structure of the uterine wall," the latter being known as the interstitial variety. He believes that the latter invariably rupture into the peritoneal cavity, and at a period varying from the third to the twentieth week, while ectopic gestation in the free portion of the tube infallibly involves rupture before the fourteenth week, probably before the twelfth week. This rupture the author terms "primary rupture."

The tubal rupture takes one of two directions, — either into the peritonæum, which is the fatal form, or into the cavity of the broad ligament, which gives rise to the kind of ectopic gestation which he names extra-peritoneal, "which alone yields all the cases which go on to the period of viability, all the lithopædia, all the suppurating cysts discharging into the bladder, rectum, etc., and also the cases which, by secondary rupture of the ovum cyst, get called abdominal pregnancy." This classification is well explained by diagrams and a table.

The author relates how, in 1881, he saw a case of ruptured tubal pregnancy with Mr. Hallwright, where the diagnosis was readily agreed on. "This gentleman made the bold suggestion that I should open the abdomen and remove the ruptured tube. The suggestion staggered me, and I am ashamed to say I did not receive it favorably. I saw the patient again in consultation with Mr. Hallwright and Dr. James Johnson, and again I declined to act upon Mr. Hallwright's request, and a further hæmorrhage killed the patient. A *post-mortem* examination revealed the perfect accuracy of the diagnosis. I carefully injected the specimen which was removed, and I found that if I had tied the broad ligament and removed the ruptured tube, I should have completely arrested the hæmorrhage, and I now believe that if I had done this, the patient's life would have been saved."

The next case to which Mr. Tait was called was in 1883. "The patient was clearly dying of hæmorrhage, and I at once advised abdominal section. The fœtus, about the twelfth week, was lying amongst masses of clot and coils of intestine, and to these latter the partially extruded placenta had obtained new attachments. These I cautiously separated, and occasioned fast and copious bleeding at every point. I wasted much time in trying to stop this hæmorrhage, so that by the time the operation was finished my patient was practically dead. We got her to bed alive, and that is all that can be said. I thought much about this case, for it was a bitter disappointment. I thought I should achieve a triumph, and I had only a failure. But my conclusion was speedily arrived at that I had

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blundered; that the true method of operating in such a case was to separate adhesions rapidly, regardless of bleeding, and make at once for the source of the hæmorrhage, — the broad ligament, — tie it at its base, and then remove the ovum, *débris*, and clots at leisure. This I have done now in thirty-nine cases with one death, and I think I may fairly say that I have really achieved a surgical triumph. My example has been widely followed, and the success is almost uniform."

The histories of various of these cases so operated have been reported in this journal, and similar ones are now scattered through medical literature, as the example thus set has been followed by many operators.

As might be anticipated, our author, while admitting, rather ungracefully, that a diagnosis of tubal pregnancy may be made before rupture, strongly opposes any treatment except by laparotomy, "as being more certain and far more safe than the fancy methods of puncturing the cyst and injecting poisonous fluids, or passing through it some kind of galvanic current." There can be, there clearly is, from the statements of those who have tried these plans, neither certainty nor safety about them.

The important subject of pelvic hæmatocele is next considered. There certainly has been confusion enough on this question, which might have been avoided by more careful attention to the works of Bernutz. The author excepts the division of hæmatocele into extra-peritoneal and intra-peritoneal. Of the former he admits only two causes, one very common and one relatively rare; the first being a sudden arrest, either of normal menstruation, or of the pseudo-menstruation which occurs so constantly after abdominal operations. This condition is almost free from primary mortality, although the clot may occasionally break down and suppurate, giving rise to a pelvic abscess. Another cause for effusion of blood into the broad ligament, much more rare, much more serious, probably much more frequently fatal, is the rupture of a tubal pregnancy, about the twelfth week of its existence, into the cavity of the broad ligament. The pelvic hæmatocele thus occurring is much more liable to suppurate; so that of some thirty cases of pelvic abscess which were operated on by the author by abdominal section, most of which were supposed to have originated in suppurating hæmatocele, he suspects that more than half were due to tubal pregnancy which had burst into the broad ligament. All of these cases recovered.

The whole question is treated most completely, and is followed by a list of forty-two cases of tubal pregnancies operated on by Mr. Tait after rupture of the sac. In each case the date, the place, and the name of the attending physician is given; are glad to notice that Dr. Hallwright had an opportunity to profit in 1888 by the operation which he had

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suggested in 1881, as the forty-second operation was successfully performed upon his patient. Of the whole number thus operated, two died, including the one whose history has been already given. One woman, who had already undergone a successful operation for tubal pregnancy, afterwards had a child at full term; and, nearly two years later, died suddenly from a tubal pregnancy, without operation.

Various remarkable histories in the experience of the author and of others are given. Then the author comes to the treatment of cases of extra-uterine gestation, where the fœtus has survived the rupture of the original sac, and, getting an abode in the broad ligament, has gone on growing. Here, again, the author strongly condemns attempts to kill the large and living fœtus, as dangerous to the mother and murderous to the child, whose life should be respected. Besides all the dangers to the mother from such a proceeding, the author maintains that even the destruction of the child does not necessarily stop the growth of the placenta, which may go on until fatal hæmorrhage ensues from this cause. The details of the method of removing such children by abdominal section are lucidly stated, with a discussion as to the proper method of treating the placenta after removal of the living and viable child. The author's method is, in short, to leave the placenta in place, cutting the cord off short, squeezing out the fœtal blood, washing out the sac clean, and closing it when full of clean water. The work closes with a quotation from this journal of the list of cases of lithopædion published by Dr. Fales in October, 1887.

There is a great deal of interest attaching to the plates of frozen sections of two bodies which contained ectopic pregnancies. There are quoted by the author from the work of Drs. Berry Hart, and Carter, in the "Edinburgh Medical Journal." We reproduce the figures in this number, from their interest as an unique contribution to the literature of this important subject. (Plates II. to IV.)

ZWEI MEDIANSCHNITTE DURCH GEBÆRENDE. — TWO MEDIAN SECTIONS THROUGH PARTURIENT WOMEN.

BY DR. G. WINTER, PRIVATE DOCENT AND SECOND PHYSICIAN AT THE ROYAL UNIVERSITY HOSPITAL FOR WOMEN AT BERLIN.

Four charts (two colored), with explanatory text, containing four figures. Published by FISCHER, Berlin, N.W. Charité Strasse, Nr. 6. 20 marks.

DR. WINTER, in his clinical service, has had occasion and opportunity to make frozen sections of the bodies of two women who died during labor,

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and has thus added an important contribution to the proper comprehension of the mechanism of parturition, and particularly to the position and pathology of the placenta during this period.

The results of these studies are published in the form of pictures, adapted for class instruction, and drawn by the skilled hand of the artist Eyrich. These certainly deserve the attention of the profession, and they will be found very useful by all teachers of obstetrics. The first patient died of uræmic coma during labor, the child being already dead. After freezing with ice and salt for some eighty hours, the body was sawn in two in the median line; on the surface of the section a plate of glass was then laid, and on it all the lines were drawn in ink with great accuracy. This ink-tracing was then transferred to paper, and the water-colors were added at once, in order to insure absolute accuracy both of outline and of color. The result was certainly very satisfactory; and we have in this number reproduced the second figure on a much reduced scale, as it will be found worthy of careful study. (Plate I.)

The second case also died in labor, having had uræmic convulsions; the manner of death was by a sudden cessation of breathing, the pulse continuing for some minutes. At the autopsy a large, fresh clot was found in the brain, and another and much larger one was situated beneath the placenta. By a similar process of freezing, the uterus, containing the placenta and thrombus, is shown in colors.

It is to be hoped that in this country, where the climate in winter is severe enough to freeze bodies without artificial measures, this method of studying morbid conditions may become more common than at present.

REVIEWS.

Travaux d'Obstétrique du Dr. A. Auvard, Accoucheur to the Hospitals of Paris. Published by Lecrosnier et Babé. Paris, 1889.

This work, which is the result of the wide experience of Dr. Auvard, is published in the form of three volumes of about five hundred and fifty pages each. The first volume contains one hundred and fifteen illustrations; the second, one hundred and thirty-seven; the third, fifty-six. Some of these illustrations are etchings from photographs, and would appear to much better advantage if printed on a better quality of paper, but we are pleased to see this method of illustrating scientific works on the increase.

A prominent feature of this book is the originality shown in the disposition of the subject-matter. It does not follow the usual orderly arrangement from the fundamental principles of obstetrics to the manage-

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ment of cases of normal labor, abnormal presentations, diseases of the post-partum period, etc. One is introduced immediately to the use of the cranioclast, management of adherent and multiple placentæ, fibroids, menstruation, mixed version, viburnum-prunifolium, etc.

To the accomplished obstetrician this is no disadvantage, and it is to him that the book would appear to be of the greatest value. Cases are reported in detail, and reports of special cases are included between the regular articles. It is eminently a work of reference, exhibiting a vast amount of labor and care, and fills an important place in scientific obstetrics. It is not a "manual" for the student, but a book that will find its place among the encyclopædias and standard works of medicine.

Space will not allow of a careful consideration of the many subjects treated. There is a chapter on "Hypnotism and Suggestion," giving the conclusions of the valuable researches of our French *confrères* in this field. It is an elaborate article, covering seventy-one pages. Hypnotism would seem to be useful during labor, excepting at the stage of expulsion, when an anæsthetic is necessary.

One word about the time-honored and much-disputed question of the "support of the perinæum." It appears that support of the perinæum by retarding the advance of the head causes a rupture if attempted too soon. Nature, if let alone, will, in occiput anterior positions, bring the point at the junction of the head and neck under the pubes before, or immediately at, the time of extension, when the face sweeps across the perinæum, thus bringing the shortest diameter between the pubes and perinæum. Now, if the head is flexed too soon, the *occiput* will be brought under the pubes, and a long diameter presented. The result is, the perinæum tears.

His convictions in regard to antisepsis accord with our own observations with reference to operations on the genital tract; viz., that if thorough destruction of germs is to be attained, it is necessary, not only to pour in quantities of irrigating solutions, but to combine this with a *vigorous rubbing* of the surfaces. This question was discussed by Dr. Auvard in an article on "Obstetrical Antisepsis," published in the ANNALS for April, 1888.

H. P. N.

WOOD'S MEDICAL AND SURGICAL MONOGRAPHS. Published monthly. $10.00 a year; single copies, $1.00. By Wm. Wood & Co., 56 and 58 Lafayette Place, New York.

THESE valuable volumes "consist of original treatises and complete reproductions, in English, of books and monographs selected from the latest literature of foreign countries, with all illustrations, etc." As is

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well known, many of the best and most important contributions to science are too long to be published in periodical medical literature, and when the original sources are in foreign languages, they are lost to many who cannot easily read them.

Each of the two volumes of this series already published consists of over two hundred and fifty pages, containing three monographs, one of which is a translation from the French. Presumably these are printed with the consent of the authors, and by previous understanding with them, and it will certainly be an advantage to medical science if the publishers thus afford a medium by which serious contributions to medical literature can be brought out unabridged to the satisfaction of authors as well as of readers.

As many of the monographs are on subjects more particularly interesting to specialists, it would be very desirable if some way were devised by which such treatises could be obtained separately. The most important monograph yet published on a gynæcological subject is in the number for February, 1889, entitled "Gonorrhœal Infection in Women" (one hundred and thirty pages), by William Japp Sinclair, M.A., M.D., Physician to the Manchester Southern Hospital for Women, etc. The author has studied and discussed this question with a thoroughness which leaves nothing to be desired. To a most conscientious examination of the literature of the subject he has added the results of ample professional observation. Certainly this monograph should be in the library of all who have much to do with the treatment of women. The other articles already published are, "The Pedigree of Disease," by Jonathan Hutchinson, F.R.S.; "Common Diseases of the Skin," by R. M. Simon, M.D.; "Varieties and Treatment of Bronchitis," by Dr. Ferrand; "On Giddiness," by Thomas Grainger Stewart, M.D.; "Albuminuria in Bright's Disease," by Dr. Pierre Jaenton.

HOSPITAL REPORT.

MURDOCK FREE SURGICAL HOSPITAL FOR WOMEN.

THE following cases have been at the Murdock Hospital, and as such have been reported in the ANNALS. They were cases in which abdominal operations were performed, and were of exceptional interest and importance. The first was of abdominal abscess, published in February, 1888. The second was of parovarian cyst complicated by pregnancy, published in April, 1888. In making a second report of these cases, I will bring in the previous record only so much as is necessary to outline the history of the case to show the connection with future delivery. Both of these cases

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have borne a child since the operation; the first was attended by myself, and the second by her own physician in Malden, and she has given the history of her case and allowed an examination to show present condition.

CASE I. — Mrs. M., of Roxbury, is 36 years of age; has six children; mother always healthy; laceration of cervix and perinæum with last child; menses in eighteenth year; last appearance eight months ago. Nine weeks ago she had a miscarriage, at two months, after which she did very badly. One week later she began to be feverish, and this condition continued till she entered the hospital, July 6, 1887. There was a swelling in the left groin just above Poupart's ligament, which fluctuated somewhat, and between this and the vagina was a thick mass of indurated tissue. The left leg is drawn up at right angles, and cannot be straightened or moved without severe pain. She was in an extreme condition of suffering. She was poulticed for three days, when, on July 9, an opening was made and a quart of pus removed. She recovered perfectly from this, had the cervix and perinæum operated on August 16, and was discharged perfectly well on September 4, having gained twenty-five pounds. She went on in good health till Oct. 18, 1888, when I delivered her of a child of nine pounds. On examination for position, I first felt a silk suture which had been left in the cervix and had changed in no way. The cervix was then well dilated. The perinæum was a dense, firm body, with considerable cicatricial tissue. I did not remove the suture, but felt that I should need to take considerable care to prevent a new tear in the cervix and a complete giving way of the perinæum. The labor was quite tedious, considering that this was the seventh delivery.

All went well, however, and she made a rapid and perfect convalescence. She was to come to my office December 1, but I did not see her till Feb. 1, 1889.

Her condition now is as follows: Health apparently perfect. She complains of nothing; examination revealed the silk suture. I removed it, and it presented the appearance of a suture which had been introduced a week before. The cervix presented nothing abnormal. There was the appearance of having borne children, but no one could consider that it was lacerated, or ever had been. The uterus was in good position and perfectly normal in size. In her case it is quite easy to make a very satisfactory examination of the pelvic organs, yet I was unable to make out anything abnormal.

It seems that a woman could scarcely have such extensive inflammation in the pelvic viscera, go through pregnancy so quickly after, having had no symptoms, and then present a condition so nearly perfect that no trace whatever could be found of the extensive old disease. I took all the care

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possible to prevent a rupture of the perinæum, although from the character of the labor it seemed that it would be almost impossible to prevent it. The perinæum having been repaired very thoroughly, and a large triangular body formed (see article in ANNALS, August, 1888, on perinæum), there was less room in the vagina than natural, and consequently a rupture would be expected. The last examination showed a good, firm perinæal body, sufficient without further repair, — a very satisfactory result in every respect. Some reader may wonder at the silk sutures being left. I would say that it is frequently done, and often when the cervix is sutured with silk and a perinæal operation is performed at the same time, to save the necessary stretching in removing the silk, the patient is asked to return in three months, when the sutures are removed and results noted.

CASE II. — Parovarian cyst, associated with pregnancy. Mrs. X. entered the hospital Jan. 24, 1888. She is 37 years old; was married at 23; never conceived. Always regular menstruation till August, 1887, the date of her last period. In August, 1886, she noticed that she was increasing in size, and this kept on steadily till August, 1887, since which time the abdominal measurements have very perceptibly increased. There has been no trouble, except slight inconvenience from weight. She is in good health and strength.

At the operation performed Jan. 31, 1888, before described, a cyst of the left broad ligament was removed, weight fifteen and a half pounds. A pregnancy at five months was also discovered. It is of sufficient importance to repeat that the cyst was attached by a broad pedicle, formed by folds of the broad ligament, which, when cut away, left a deep, bleeding, cup-shaped cavity, which was sutured and closed by the shoemaker stitch; also a large venous plexus, adjacent to the uterus, was sutured off, and in so doing a part of the uterine tissue had to be pierced by the needle. The veins of the ligament were very large, and anastamosed very freely with the veins of the cyst wall. Her recovery was uninterrupted. One week after the operation, movements of the child were felt. Discharged well, March 3. Pregnancy went on uninterruptedly, and she was delivered May 22, 1888, of a ten-pound girl. There was some rupture of the perinæum, which was repaired at the time, and healed well. A mural abscess formed about the time of delivery, which was cured quickly and gave no trouble. The connection with the abdominal operation, if any, is difficult to state; also why it appeared at so late a date. She was called upon by Dr. Brigham on February 1, and the result of the examination showed nothing abnormal. There was not the slightest evidence of any previous trouble in the pelvis, and there had never been any symptoms indicative of trouble.

DR. F. L. BURT.

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Double pyosalpinx and sac of pelvic abscess, removed by abdominal section.

(See p. 275, Case XXVI.)

A — Right Fallopian tube, 6 inches long before shrinking in alcohol. **B** — Sac of chronic pelvic abscess, enucleated from Douglas' pouch. **C** — Left ovary. **D** — Left Fallopian tube, also full of pus.

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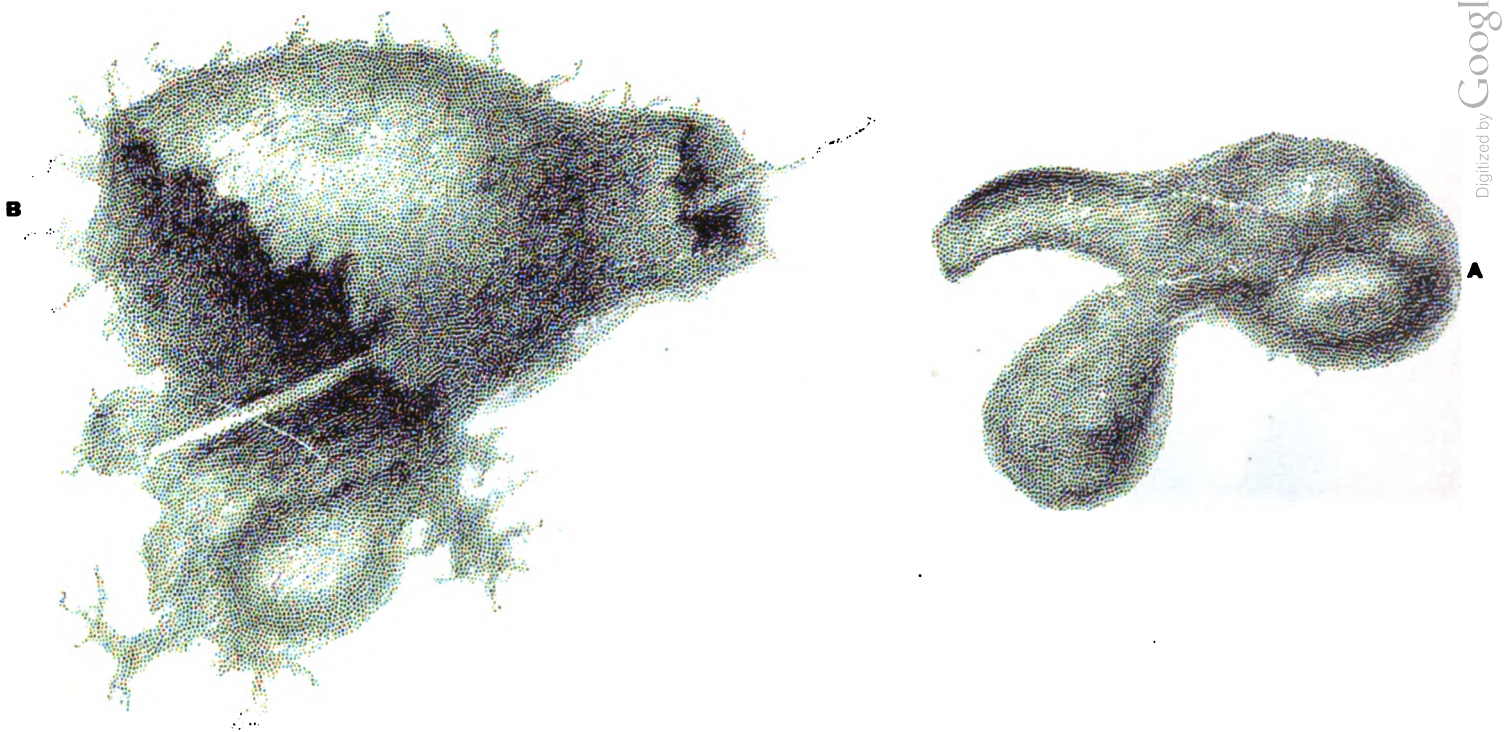


EXTRA-UTERINE PREGNANCY.

The fœtus being delivered at four months per rectum. Reported by JAMES P. TUTTLE, M.D., New York. (See pp. 207–212, ANN. OF GYN., February, 1889.)

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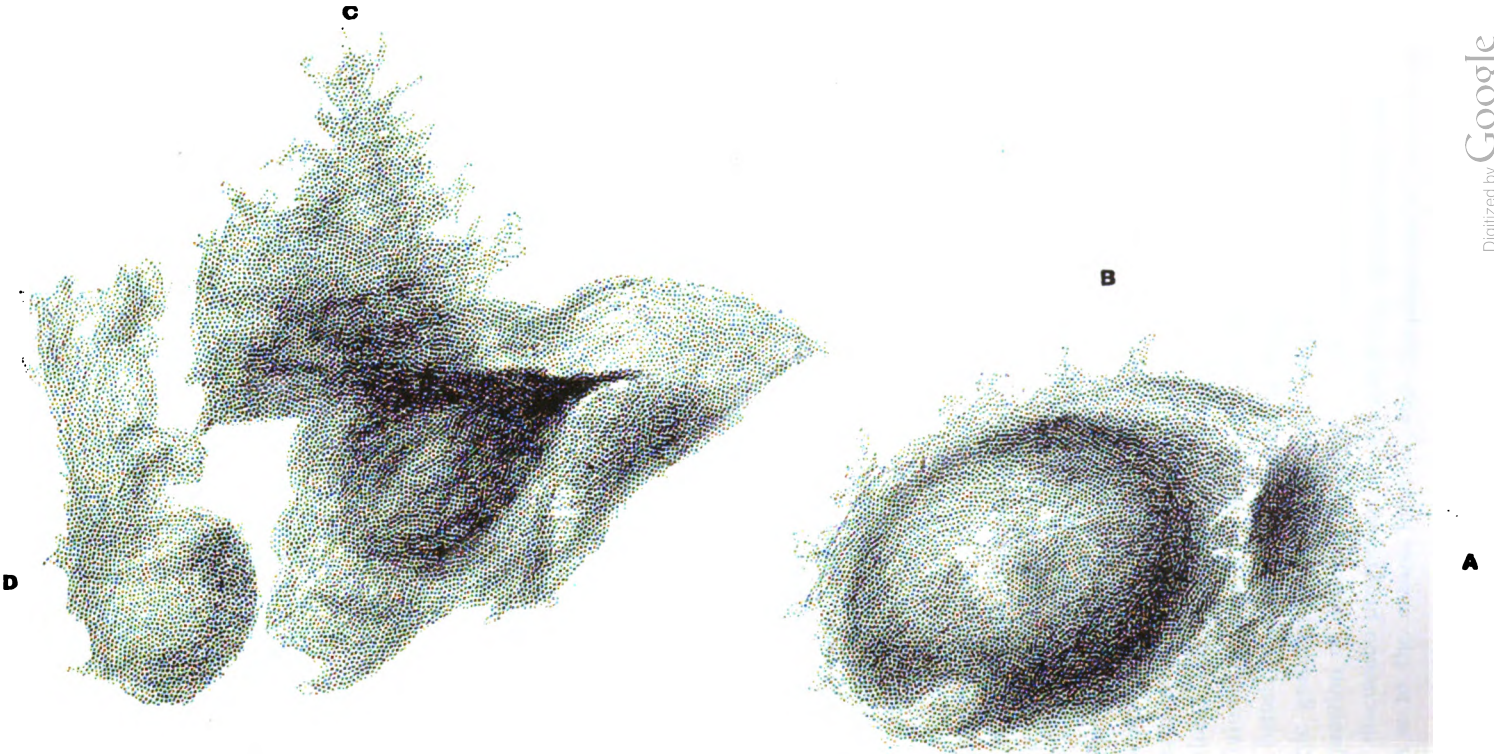
TUBAL PREGNANCY.

A— Hydrosalpinx and ovary, right side. **B**— Left tube completely filling pelvic basin. Ruptured at pavilion; membranes and placenta remaining in tube. Operation by Dr. J. PRICE. (See pp. 253–256.)

[ANNALS OF GYNÆCOLOGY, Boston, March, 1889.]

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DOUBLE TUBAL PREGNANCY.

A — Cornual end of left tube occupied by membranes and placenta. **B** — Fimbriated end of left tube distended by huge clot protruding in abdominal cavity. **C** — Right tube showing rupture, and containing membranes and placental tissue. **D** — Right ovary.
Microscopical examination demonstrated fœtal elements. Operation by Dr. J. PRICE. (See pp. 253–256.)

[ANNALS OF GYNÆCOLOGY, Boston, March, 1889.]

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ANNALS

OF

GYNÆCOLOGY.

VOL. II. MARCH, 1889. No. 6.

ORIGINAL COMMUNICATIONS.

REMARKS ON ECTOPIC GESTATION, WITH REPORT OF TWO RECENT CASES.

JOSEPH PRICE, M.D., PHILADELPHIA, PA.

IT is not my purpose to make a formal discussion of this subject merely to emphasize certain points of treatment, and to enter protest against defining electrical fœticide as the "American method," as has recently been done by a reviewer who was so poorly qualified for his position as to make the following statement: "We know of but one native gynecologist who advises the universal resort to laparotomy in every stage of ectopic pregnancy; and he had what we may call the misfortune to have had a successful case of recovery after laparotomy." There are a number of abdominal surgeons in this country who, with keen appreciation of their profession as life-savers, are unwilling to toy with a dangerous and unsatisfactory force, but who believe the best interests of their patients are served by the speedy and absolute removal of the offending condition. The results obtained by this class of men are not only equal to those claimed by men who practise the so-called "American method," but much better, inasmuch as the errors of diagnosis are eliminated.

Ectopic gestation, its diagnosis and treatment, has of late been the burning question of abdominal surgery. As material accumulates, and intelligent discussion progresses, we are gradually approaching unanimity of opinion as to the nature, location, and complications of this dreadful

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accident. Lawson Tait, in his recently published "Lectures on Ectopic Pregnancy and Pelvic Hæmatocele," has given us the most scientific and logical discussion of the subject that has ever been presented. A careful study of this work, supplemented by that of a remarkable editorial review of it published in the "Buffalo Medical and Surgical Journal," for March, 1889, will amply repay all who are interested in the subject. My own experience leads me to accept Mr. Tait's views, and I wish to emphasize one or two points. First, is the frequency of occurrence. I have myself operated upon twelve cases in the last two and a half years, and the following communication from Dr. H. F. Formad, coroner's physician, of Philadelphia, bears directly on the subject: —

"DR. JOSEPH PRICE: —

"DEAR DOCTOR, — In answer to your inquiry, I state that during five years of continuous service as coroner's physician of Philadelphia, conducting all the autopsy work, I observed nineteen cases of extra-uterine pregnancy. I have reason, however, to believe that more cases occurred, but escaped notice. I am sorry not to be able to give detailed descriptions of these cases at this time; moreover, they were all cases of sudden death, mostly with histories unknown. Yet the specimens being preserved, I propose to give them a close study, and to give you at some future time a full anatomical description. The next volume of the Pathological Society will contain a tabulated record of all my cases. The majority of specimens I exhibited from time to time before that society.

"I may state that the cases were all of the same kind and nature, and have the following features in common: Death from sudden profuse hæmorrhage in the abdomen, all within twelve hours, save one case, in which death ensued five days after the rupture of the sac, while in some cases as early as three hours. All cases were tubal, as many right as left, and all between four and eight weeks of fœtal development. In all cases the sac was located near the end of the tube except in one case, where its seat was just at the point of exit of the right Fallopian tube from the uterus. This was the case in which death was so unusually delayed. The women were mostly young, and a few middle-aged; all had borne children before; nearly all had chronic salpingitis, with adhesions and contortions of the tubes. All were from the working class, and in all the rupture of the sac appeared to have taken place while the women were exerting themselves at work or housekeeping. Women of German extraction were in the majority, and two were colored. The fœtuses were found only in half of the cases, it being very difficult, and sometimes impossible, to recover the small embryos in the enormous masses of clotted blood distributed usually

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throughout the whole abdominal cavity. In no case was there less than a quart of blood coagula. In every case there were formed fœtal membranes within the sac. The following history of my last case gives the essential clinical features of all the cases. The post-mortem was held November 12, 1888. White; German woman; æt. 26; married; two children; both living; the youngest three years old; probability of having aborted once, about a year ago; menstruation habitually regular as far as could be learned; absence of last period; robust health up to November 11, when, at 7 A.M., while washing or scrubbing, she was suddenly seized with violent pain in the abdomen and fainted. This was followed by complete collapse, syncope, some convulsions, coma, and death at noon, or within five hours. None of these cases were diagnosed before death, and the physician called in usually regarded the case as one of gastric or intestinal colic, and prescribed remedies accordingly, and after death referred the case to the coroner. Possibly some similar cases were not reported, or not examined, and have escaped record."

This communication likewise shows how frequently the accident occurs without giving rise to symptoms enough to allow its diagnosis before rupture.

Diagnosis before rupture is the junction where enthusiastic excursionists connect with the "American method" (an electrical road) for a self-satisfactory journey to Utopia. I believe that a *positive* diagnosis of extra-uterine pregnancy before rupture is impossible. It has been made, and operation has verified it. It has been made much oftener, and operation has demonstrated an utterly dissimilar pathological condition, producing symptoms exactly like those caused by extra-uterine gestation before rupture. Moreover, the ablest exponents of the so-called "American method" confess, with Dr. Thomas, that "a positive conclusion is very generally difficult, and often impossible."

As to treatment, if from combination of characteristic symptoms, confirmed by the presence of a mass, extra-uterine pregnancy is considered probable, operate and remove the sac. If the operation proves the diagnosis correct, a fearful calamity has been surely and speedily averted. If the diagnosis of extra-uterine pregnancy proves not to be correct, yet the patient has been relieved of a condition more or less dangerous, one in itself amply justifying the operation. No one questions the treatment of extra-uterine pregnancy after the rupture of the tube. The operation in the following cases was as simple as possible for abdominal surgery. Every detail was minimized. Short anæsthesia, short incision, rapid but clean enucleation, careful tying, free flushing with warm distilled water

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through an irrigator one-half inch in diameter, — water poured from pitcher to funnel from a height — and well-placed drainage. Both patients recovered without a bad symptom.

CASE I. — Double tubal pregnancy. Mrs. M., æt. 35, white; four children, the last 18 months old. Delayed menses in November two or three weeks beyond term. Three weeks ago was seized with agonizing pelvic pain and collapse at midnight. This attack was followed by recurring attacks of collapse and pain, constant uterine hæmorrhage, loaded with shreds of decidua. Abdominal section performed December 22, 1888. Removal of both appendages for double tubal pregnancy. The right tube had ruptured into abdomen, discharging its contents. Abdomen full of clotted blood and placental débris. The left tube was found greatly elongated, and distended to the size of an orange by blood-clot, which protruded from pavilion extremity; the cornual extremity was occupied by placenta and membranes. General peritonitis and adhesions of pelvic and abdominal viscera. Irrigation and glass drainage.

MICROSCOPIC EXAMINATION OF SPECIMENS.

"1322 WALNUT ST., Dec. 22, 1888.

"DEAR DR. PRICE, — The specimen you gave me from the woman upon whom you operated to-day I took to Dr. Piersol, who found what he says are certainly villi of the chorion, thus establishing beyond peradventure your diagnosis of extra-uterine pregnancy. Further examination may show more that is of interest, but the proof of the correctness of the diagnosis was, I suppose, what you most wanted.

"Very truly yours,

"ARTHUR V. MIEGS."

CASE II. — Left tubal pregnancy, right hydrosalpinx; Mrs. F., æt. 34, white; married twice; four children by first husband, none by second. Sterile for eleven years; typical history of tubal pregnancy. Inaptitude to conception; absence of three menstrual periods; sudden agonizing pelvic pain and collapse recurring at short intervals. Her physician, Dr. Eugene P. Bernardy, saw her in collapse. Diagnosed ruptured tubal pregnancy, and insisted upon prompt surgical interference. Abdominal section, December 29, 1888. Removal of both appendages for left ruptured tubal pregnancy and right hydrosalpinx. The left appendages filled the pelvic basin, the primary rupture having occurred between the folds of the broad ligament, with secondary rupture into the peritoneal cavity. General firm adhesions. The pelvis was emptied of clot, the placenta and membranes coming away in the tube. Irrigation and glass drainage.

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THE PATHOLOGY AND DIAGNOSIS OF SO-CALLED PELVIC CELLULITIS, WITH SPECIMENS OF SALPINGITIS.[1]

BY E. W. CUSHING, M.D.

FEW diseases present a more constant and well-defined group of symptoms, both objective and subjective, than the inflammatory affection of the pelvic contents, which is so well known under various names. In few diseases has the proper comprehension of the pathology, as derived from autopsies, been so long obscured by notions supposed to be founded on physical examination; in none has a just realization of the essential nature of the disease been followed by so brilliant and successful surgical measures.

Curiously enough, from early times there have not been wanting accurate descriptions of the diseases of the Fallopian tubes, as found at autopsies; but these were supposed to be affected as a consequence of pelvic inflammation, rather than as being the essential and causative factor of the latter. It required the surgical genius and success of Tait and Hégar to bring the profession to realize that the diseased and swollen tubes involved in a mass with ovaries, lymph, and perhaps pus, as described so accurately by Bernutz and Goupil in 1857, are verily the same lumps and "effusions" we are all continually encountering in pelvic inflammations, and which, under the teachings of eminent authority, have been supposed to be outside of the cavity of the peritonæum, between the folds of the broad ligament, a supposed inflammation of cellular tissue, forming a so-called "pelvic cellulitis." Verily a case of *lucus a non lucendo*.

Perhaps it will be worth while to pause here a moment and enjoy the pleasure which delighted the pedantic Wagner, — that of transporting ourselves into the spirit of other times, and observing how wise men have thought, in order to mark our own progress: —

> "Es ist ein gross Ergetzen
> Sich in den Geist der Zeiten zu versetzen
> Zu schauen wie vor uns ein weiser Mann gedacht
> Und wie wir's dann zuletzt so herrlich weit gebracht."

In the first place, it is often supposed that the ancients knew little or

[1] Read before the Section for Clinical Medicine, Pathology, and Hygiene of the Massachusetts Medical Society, Dec. 12, 1888.

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nothing of uterine diseases, had no works on the subject, and left all treatment of such affections to ignorant midwives.

Nothing can be further from the truth. The most important uterine diseases have always been, and always will be, clinically the same, although the treatment has improved with the knowledge of pathology, and with the advance of surgery due to the introduction of anæsthesia and the enforcement of cleanliness.

How graphic and true is the clincal description of pelvic inflammation by the father of medicine:[1] "If the uterus is inflamed, the menses are suppressed, and the vagina is mottled with many fine veins, like a spider's web, the fever is acute and causes delirium, and the menses, when they reappear, are scanty and unhealthy; if the patient eats anything she vomits, and pain invades the lower part of the abdomen and the loins, and the patient faints and shivers through her whole body; but the belly is sometimes hard and sometimes soft, and it is inflamed and swollen."

Then comes the description of the symptoms of subacute general peritonitis, which sometimes ensues, and the severe course of which is described.

To this let me add the description of the results of local examination from Mercatus, the court physician of Philip II., of Spain:[2] "If the posterior and superior part of the uterus is inflamed, there is pain in the parts around the navel, and sometimes we see them raised in a swelling; but there is worse pain in the loins, and the excrements are passed from the bowel with difficulty," etc. "If the fundus is inflamed, there is acute pain in the lowest part of the abdomen, so that the latter seems unable to bear any touch, even externally; and the uterus is usually drawn toward the inflamed place; and this accounts for its os and collum being turned the other way. It differs from an hysterical attack in the ardent fever and intense heat of the part. If the anterior part of the uterus is affected, a difficulty of urination or a stillicidium ensues, and there is severe pain in the umbilicus and the parts near and below the latter; and if the finger is placed against the os uteri it feels to the touch hard, closed, hot, and retracted, especially if the inflammation is in the uterus itself or in its neck; and by the pain, hardness, and heat you will distinguish this condition from pregnancy.

"But if the sides of the womb are inflamed, the groins are tense, and the thighs are moved with difficulty and pain, and in some cases the leg on that side limps in walking," etc.

Then follow the symptoms of suppuration, with a graphic descrip-

[1] De morb. mulierum., lib. ii.

[2] De virg. et vid. affect. et de uteri morbis, lib. ii., p. 606.

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tion of the severe cases, and a description of the various ways in which the abscess breaks; the relief afforded thereby; the treatment with poultices,[1] sitz-baths, narcotics, vaginal injections and vaginal suppositories, cotton tampons medicated with emollient and discutient decoctions, cupping and venesections, the latter only when the inflammation does not arise from abortion, nor from severe labor, or if the patient has not lost much blood.

"Universa etenim curandi phlegmones ratio in prohibitione ejus quod fit et ablatione ejus quod factum est constitit." ("For the universal method of treating phlegmons consists in preventing whatever is forming, and removing whatever has been formed.")

If resolution does not come on, suppuration is encouraged by appropriate treatment until it comes within reach, when it is to be opened after the surgical method of Ætius, which consists in cutting the integument with a knife and opening the abscess with a hot iron, placing the woman in a position favorable for drainage, and washing the cut three times daily.

I have brought here several of my books, in which the curious will find how various wise men have considered this subject before us. To understand them it is only necessary to remember that the uterus in general included the os externum or vulva, the vagina or sinus or cervix uteri, the os internum (now called externum), the collum or vaginal portion, as well as the tubes or cornua uteri, so called from the fancied resemblance to the horns of animals, situated on the uterus as the head. Of course the tubes were well known before the description of Fallopius, from whom they now take their name. The question naturally arises as to how much better off is a woman with pelvic inflammation now than was one similarly affected in the time of Philip II. Probably, in acute cases, not much better off, as far as medical treatment is concerned. The disease is the same, the therapeutics are the same, except that the surgical treatment is now bolder, surer, and better, under favorable circumstances and in the hands of experts.

But it may be said that these ancient authors knew nothing of pelvic cellulitis; they laid all the trouble to inflammation of the uterus and its appendages; they did not know about the "areolar tissue."

That is where they were in the right, and where in modern times the greatest error has arisen. It is only within the last few years that really accurate views have again prevailed as to the nature of pelvic inflammation. That the Fallopian tubes could be diseased and adhere to the ovaries and to other parts has long been known.

[1] "Make and apply to the lower abdomen a poultice of fœnugrecum, linseed, wheat flour, boiled figs, and turpentine."

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In his classical work, which I have here, Fallopius says distinctly that the tubes are never adherent to the ovaries unless as the result of severe disease of the uterus: —

"Nunquam observare potui meatus istos seminarios conjunctos cum testibus, nisi uterus male affectus fuerit. Nam si in uno latere adfuit tumor aut cancer, ejusdem etiam lateris testis ita contractus et colligatus cum dicto meatu apparuit ut connati simul viderentur, at oppositi lateris sani scilicet testis non ita se habere semper visus est. Sin autem utrumque latus erat affectum, uterque meatus pariter conjunctus cum teste a me reperiebatur, hocque bis aut ter ad summum vidi." ("I have never been able to find those seminal passages (tubes) joined with the testes (ovaries) unless the uterus was diseased; for if on one side there was a swelling or cancer, the ovary of the same side appeared so contracted and adherent to the said passage (tube) that they seemed congenitally united. But the ovary of the opposite healthy side never seemed to be in such a condition. But if both sides were affected, each passage was found by me equally joined to the ovary; and this I have seen twice or at the most three times.")

De Graaf,[1] in his celebrated work, which I show here, figures Fallopian tubes deformed and occluded at their extremities.

After De Graaf, and quoting his work and that of Fallopius, comes Ruysch, of Amsterdam, who in 1725 published at immense expense his treasury or catalogue of his wonderful museum. Fortunately I am in possession of a copy, which I have here.

He correctly explains[2] and figures the occlusion and dilatation of the Fallopian tubes and their adhesion to the ovaries, due to inflammatory processes usually following difficult labors, and insists on the consequent sterility. He relates cases of puerperal fever with autopsies where the pelvis was full of foul matter apparently regurgitated or forced through the tubes from the uterus.

He insists on the frequency of inflammatory affections, and consequent great distention of the tubes, which he says he never would have believed if he had not made autopsies on so many women.

I will not take up any more time by quoting these old authors at length; but as they are overlooked in the modern references to the subject, I have thought it well to present their books to-night. It must be remembered that these works were in their time great authority, and were continually studied and quoted; the successors of these authors in Europe

[1] A plate in the same work (De Graaf, "Opera Omnia," 1678), showing a tubal pregnancy copied from Vassalius, and properly interpreted, is interesting at this time. Ann. of Gyn., December, 1888.

[2] Anatomical Observations, 43, 84, and 85, "Adv. Dec.," i., p. 6, th. ix., 15.

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have therefore always preserved a just comprehension of the nature of pelvic disease, and descriptions of the various forms of salpingitis are scattered through the works of the pathologists and gynæcologists of more recent times.

A very full bibliography of the subject is given by Professor Wylie at the end of his admirable article on salpingitis in the recent "American System of Gynæcology," edited by Professor Mann.

It is needless for me to repeat it here. It is sufficient to say that about 1884, by the writings of Marchal de Calvi, followed later by Nonat (1849), and yet later by West, Simpson, and others, the seat of pelvic inflammation was located in the areolar connective tissue which surrounds the cervix and fills out the broad ligament.

On the other hand, Aran insisted that the masses felt during life and found after death were connected with the uterus and tubes. In 1857 and later, and more fully in 1862, Bernutz and Goupil described and explained the real nature of pelvic inflammation with precision and accuracy; by the courtesy of Dr. Sinclair I present their work to-night.

It now seems difficult to understand why their observations did not have more effect on the profession, especially as the discriminating mind of Thomas[1] very early supported their views with the weight of his authority, while Emmett has always upheld the doctrine of "pelvic cellulitis," and I believe was, until very recently, still unshaken in his opinions.

The popularity of the works of the latter author, the authority of his personal teaching, and the influence of the men who have studied under him, combined with the fact that the doctrine as taught seemed founded on the plain evidence of the sense of touch, —all these causes conspired in this country to smother the truth as taught by Bernutz, until the results of the autopsies described by the latter were supported and emphasized by the results of hundreds, ay, thousands, of operations for salpingitis, where the evident "cellulitis" could be felt to disappear from the "broad ligament," as the operator shelled out a pus-tube and ovary from behind the uterus.

It is not always easy to understand what is meant by pelvic cellulitis; but as far as I comprehend the various authors, and as I previously understood the subject myself, it is as follows: —

The disposition of the cellular tissue in the pelvis is pretty well known. Something like a year ago I read before the society, in connection with the subject of tubal pregnancy, a translation from Bandl[2] of the instructive

[1] Diseases of Women, 2d ed., 1869, pp. 380, 381 *et seq.*

[2] Ann. of Gyn., February, 1888, p. 224 *et seq.*

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work of Schlesinger, who, by injections of air and of liquid glue between the folds of the broad ligaments, near the tubes, showed that areolar tissue, loosely connected, ran between the folds of the ala vespertilionis up along the psoas muscle, inwards around the cervix, and between it and the bladder, outward to the inguinal ring, and downward between the rectum and vagina. Now this is precisely the course taken by the pelvic collections of pus in seeking for an outlet; and when on examination of a patient a mass is found laterally and posteriorly to the uterus, nothing is more natural than to suppose that the hard mass is in the thickness of the broad ligament, and thus entirely outside of the abdominal cavity, below the peritonæum. If the mass enlarges, it would be held that the peritonæum lining the cul-de-sac of Douglas is lifted up, still leaving the "effusion of lymph" extra-peritoneal; if after death the ovaries and tubes are found diseased in many cases, it was urged that these were bad cases, and therefore fatal; that here the tubes or ovaries were affected because they also were between the folds of the broad ligament, and more or less connected, on one side at least, with this areolar tissue. That, however, most cases which are not fatal, and which recover without suppuration, get well because the lymph in the areolar tissue is absorbed.

If the pelvic peritonæum is inflamed, it is held to be by extension of the disease from its point of origin between the folds of the broad ligament around the blood-vessels and lymphatics.

This, as I understand it, is the doctrine of pelvic cellulitis or parametritis. It is plausible, fascinating, but, as I believe, entirely false, except perhaps in certain puerperal cases, where a rent, extending at the side of the cervix right into this areolar tissue, may become septic like any other wound.

How, then, shall we explain the symptoms? If the mass or masses which we feel are not in the broad ligament, where are they? If not effusions in the areolar or cellular tissue, where are they? In answering this I will premise that I am well aware that in one sense the tubes and ovaries are between the folds of the broad ligament; but when speaking here of the broad ligament, I mean that part of it which comes up to the limit of the side of the tube, or to the hilum of the ovary — regarding these organs as practically in the general cavity of the abdomen, like the fundus of the uterus itself.

I answer, then, that the mass as felt is in the pouch of Douglas, behind the broad ligament, or laterally at the side of the fundus uteri, or even sometimes on one side posterior and on one side anterior to the latter.

What is the mass? It is a distended tube, or tube and ovary, which may or may not be imbedded in a mass of lymph more or less recent. In

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bad cases, there may be pockets of serum or of pus outside the tubes, but yet within the cavity of the peritonæum, above the latter, and roofed in by coils of intestine matted together and lined with lymph, which may form a strong and smooth membrane — a sort of sac for the abscess. (See Fig. I.) If the areolar tissue is entered, it is secondarily, while the abscess is finding its way out along the lines above described.

The diagnosis is to be made between this condition, with its various subdivisions, and the tumors proper and cysts which are found in the same locality.

These comprise: —

1. Distended tube and its complications:

Hydrosalpinx; hæmatosalpinx; pyosalpinx; tubercular salpingitis; tubal pregnancy; abscess between tube and ovary surrounded by sac; serous collection in pouch of Douglas, adjacent to tube and roofed in by adherent intestines; pus-pockets in the same locality as the last, but usually more thoroughly enclosed by a wall of lymph.

2. Tumors or other possible conditions:

Parovarian simple cyst; parovarian papillomata; small cystic tumor of ovary; small dermoid cyst; fibroid tumors of uterus; fæcal collections; hæmatocele (intra-peritoneal).

3. Cellulitis proper:

Periproctitis and perityphlitis; psoas abscess, descending; abscess around vermiform appendix, descending; infected wound of cervix and vagina. Inflammation of hæmatocele (extra-peritoneal), or of tubal pregnancy (after rupture between the folds of the broad ligament).

The differential diagnosis of the above affections is often difficult and sometimes impossible without an exploratory incision. Very frequently two or more of them are combined; *e.g.*, the chief cause of suffering in a case of fibroid (myoma) of the uterus may be, and often is, a complication with pyosalpinx.

So also a tube in a state of moderate catarrhal salpingitis may, when nearly healed, become the abode of a tubal pregnancy, and this in turn may by rupture lead to a pelvic hæmatocele, and to severe attacks of pelvic peritonitis.

It would unduly prolong this paper to discuss elaborately the subject of differential diagnosis; but there is one point in the symptoms or history of the case which always leads us to suspect tubal disease, and that is the occurrence of *fever*. The patient usually can give a very definite answer to the questions, Did you ever have inflammation of the bowels? How long were you confined to bed by it? Did any matter form and break? Then there will be a history of repeated attacks of pelvic pain with fever.

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of severe and repeated suffering during the menstrual periods, of lameness, backache, etc. Usually, or always in old cases, there is a history of repeated and fruitless attempts at mechanical assistance: the patient cannot wear any pessary; Drs. A, B, C and X, Y, Z have tried to fit pessaries, but they all hurt her, and often she has been very ill after the womb was "raised up with an instrument."

The patient is said to have an adherent retroversion: "her womb is grown on to the back passage," or there is an anteversion or lateral version.

In many cases there is a recent history of suppuration. The patient is found in bed, with the symptoms described by the ancient authors above mentioned, who, be it said, also describe at great length the hard masses which remain unless the "peccant" matters are properly "concocted" and eliminated. Or there is a fistula, continually or occasionally discharging pus; in the latter case there is usually an account of attacks of pain and fever whenever the fistula closes.

It is very difficult to describe exactly the feeling on bimanual examination; by repeated practice a certain familiarity with the pelvic organs and their relations is acquired which cannot easily be adequately conveyed in language.

The first thing observed is that the examination is painful to the patient. The uterus appears displaced; at first it seems retroverted, but by careful examination it is usually found that the fundus is anteverted and often drawn to one side, showing that the tender mass behind and lateral to the uterus must be something which does not belong there.

Now, small ovarian tumors, dermoid cysts, and cysts of the broad ligament do not give rise to fever, and are not usually painful to the touch, unless owing to some complication; the same may be said of fibroid tumors when small and subperitoneal; tubal pregnancy can usually be excluded, especially in chronic cases; the tumors of simple hydrosalpinx are not fixed, but movable; "pelvic cellulitis," *i.e.*, inflammatory effusion between the folds of the broad ligament, is practically a myth; pelvic hæmatocele has a characteristic history and course. Therefore, by exclusion we arrive at a pretty clear diagnosis of salpingitis and consequent localized peritonitis.

Especially is this opinion confirmed when another mass is found on the other side of the uterus, also tender, fixed, and chronic. The only double tumors likely to be found on both sides, except distended tubes, are double papillomata of the broad ligaments and double dermoids, both of which, by their lack of fever and tenderness, and by their steady growth,

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soon differentiate themselves from tubes, and require an operation which settles the diagnosis.

It is often desirable, especially before deciding on an operation for removal of diseased tubes, to examine the patient under anæsthesia; the relaxation of the abdominal walls, and of the muscular floor of the pelvis, and the consequent relief of the pelvic organs from pressure, wonderfully facilitate the examination, which is completed by a rectal examination, with two fingers in the rectum, the thumb in the vagina, and the other hand on the abdomen. I may here observe that great care must be taken not to rupture the pus-tubes nor to squeeze out pus from imperfectly occluded fimbriated extremities. Such an occurrence might easily be, and in fact has frequently been, followed by a severe or even fatal peritonitis.

In such an examination, the first landmark to be sought for is the fundus of the uterus; just as in the corresponding operation for removal of the tubes, we start out from the fundus to determine their position, size, and attachment. In normal cases, especially under anæsthesia, the tubes can usually be felt at either cornu, forming, with the round ligaments, bodies which feel about as large as lead-pencils, which can be rolled under the fingers, and moved freely about. After an attack of gonorrhœa, their increase in size and hardness can often be observed long before acute perimetritic symptoms develop.

In catarrhal salpingitis, where the fimbriated extremities are occluded and the tubes are distended, they can be traced as soft, sausage-shaped bodies at the sides of and behind the uterus, sometimes quite large, but usually freely movable and not very tender to the touch.

In pyosalpinx, however, they are more apt to be fixed by repeated attacks of pelvic peritonitis; the tubes fall down behind the ovaries, as described so well by Wylie, and are glued to them; the left tube generally gets first into Douglas' pouch and keeps the other out; tube, ovary, and effused lymph form a mass of a size widely varying from that of an egg to that of the two fists, or larger; on one side this blocks up the pouch of Douglas and presses on the rectum, and bulges down behind the uterus; on the other it may lie further forward, even at the brim of the pelvis, where it is readily felt as a lump in the iliac region. If the tubes and the neighboring adhesions contain much pus, fluctuation may be distinctly felt, with the well-known symptoms of pelvic abscess; more frequently the mass is hard or doughy; often it varies from week to week, as pus and serum distend the tube and the surrounding pockets, and then are gradually absorbed again.

That is the real nature of pelvic cellulitis; and nothing is more surprising and convincing than to feel from the vagina the disappearance of

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a mass, supposed to be in the areolar tissue of the broad ligament, as the operator unrolls and shells out a pair of pus-tubes.

It may be said that there is nothing new in all this. Such affections of the tubes are described by Bernutz and Aran, by Kiwisch and Ed. Martin and Klob, and by many others. That is true; but what is comparatively new is the realizing sense, on the part of the profession, that the tubal affections are the origin and not the consequence of the pelvic peritonitis; that the former come directly from the passage of infection from the uterus into the tubes. From this last fact results a growing appreciation of the danger of infection from gonorrhœa, and from sounds and instruments. The pithy remark of Credé, "that he who does not examine a woman does not infect her," is well worthy of remembrance, both in regard to obstetrical and gynæcological work. I purposely say little as to the causes and symptoms of the disease; are they not written in all the books? It is all an infection from one cause or another.

The immense importance of gonorrhœal infection in causing tubal disease is becoming more and more appreciated both by the profession and the public; and the erring husband who hereafter infects his wife will receive the execration he deserves. An important duty rests on the members of the profession in duly impressing on men the danger of infecting their wives, even after they themselves seem to be cured.

But it will be said that this explanation may suffice for old, chronic cases, which are operated on either for severe inflammatory attacks or for unendurable pain and loss of health. But how about the cases which are "resolved" and get well? How about a woman who "catches cold" after "local treatment" and runs through a course of cellulitis, where there is a mass in the pelvis as big as a child's head at term, the uterus fixed, the roof of the vagina hard? This cannot be a tube, neither is it an abscess, for it does not suppurate, but under expectant and soothing treatment it all goes away.

Now these cases are frequent, and in the first place very many or most of them do not get well entirely, but have a mass of adhesions and a disease of the tubes left, which cause sterility and future trouble. Some do get well, however, and bear children. What is such a mass? Is it not in the areolar tissue? No, the mass is inside the cavity of the peritonæum. It is chiefly one or more serous cysts, bounded by the peritonæum below, and above by adhesions and by coils of intestines. The hardness is caused by involuntary contraction of the muscles, and by tenseness of the cyst; possibly to some extent by an infiltration of the adjacent "areolar" tissue with a gelatinous substance; the origin is in the tube and the cause is the "treatment."

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Another group of cases, too important to be more than mentioned to-night, are the cases classed as cellulitis which followed labor or abortion. Here again every one, in discussing the subject, admits a puerperal "cellulitis" of the "areolar tissue;" but how many such are seen post-mortem? Beside the cases of acute septicæmia, thrombosis, etc., when there is peritonitis, what is found at autopsy? Just what Ruysch found (Obs. 43, 84, 85), — a collection of foul matter *free in the pelvis*, the tubes diseased, and similar matter in the tubes and uterus. Most of these patients die; although in some the matters are shut out from the general abdominal cavity, a pelvic abscess results which is not between the folds of the broad ligament; if this matter is evacuated, the diseased tubes remain, and may give rise to continual trouble afterward. In some cases a condition of comparative comfort results; but the diseased tubes can be detected long afterwards in very, very many cases in women who never recover their health perfectly.

Very lately, Tait has operated on a series of these puerperal cases. He reported eight in June last,[1] with two deaths. J. Price (and perhaps others) has followed him in this country, having operated, as he writes me, on seven puerperal cases up to the present time, with two deaths. In all the cases there was no sign of disease between the folds of the broad ligament; salpingitis and pelvic peritonitis were what was found.

I saw myself one of M. Price's operations on a woman with pelvic inflammation after abortion, and I shall never forget the hugely distended pus-tubes, large as Bologna sausages, which were shelled out, while the pelvis was full of stinking pus in pockets running up between the intestines in all directions; it was, as Ruysch said, "colluvies humorum non sine magno fœtore." Here is a great field in the future for the snatching of women from almost certain death by an operation which, *if not deferred until too late*, offers a good prospect of relief.

In illustration of the foregoing, I present to the society a series of pathological specimens removed from my cases, the histories of which have been condensed into the following table: —

[1] Ann. of Gyn., June, 1888.

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TABLE.

No.	Date.	Age.	Married or Single.	No. of Children.	Duration of Disease.	Pathological Condition requiring Operation.	One or both.	Adhesions.	Treatment of Pedicle.	Drainage.	Hospital or Private.	Death or Recovery.	Effect on Disease.
1	June 7, '88	33	M.	3	2 yrs.	Right pyosalpinx and encysted abscess.	One.	Many.	Cobbler's stitch with catgut; washed out abdomen with hot water.	Glass. Suction, and capillary drainage by rope of absorbent cotton, were used as in all cases.	H.	R.	Recovered. Hernia followed in three months; operated on successfully in October.
2	June 20, '88	27	M.	0	4 yrs.	Pyosalpinx	Both.	Yes, firm.	As above.	Glass.	H.	R.	Recovered.
3	June 25, '88	25	S.	0	1 yr.	Catarrhal salpingitis and blood-cyst of left ovary.	One.	Yes.	As above.	Glass.	H.	R.	Recovered.
4	June 25, '88	28	M.	0	4 yrs.	Pyosalpinx.	Both.	Yes.	As above.	Glass.	H.	R.	Recovered.
5	June 26, '88	30	M.	0	3 yrs.	Pyosalpinx and serous cyst.	Both.	Yes.	As above.	Glass.	Pr. H.	R.	Recovered.
6	July 5, '88	27	M.	0	4 yrs.	Pyosalpinx.	Both.	Yes.	As above.	Glass.	H.	R.	Recovered.
7	Aug. 2, '88	33	M.	0	4 mos.	Pyosalpinx.	Both.	Yes.	As above.	Glass.	H.	R.	Recovered.
8	Oct. 7, '88	37	M.	7	3 yrs.	Catarrhal salpingitis and serous cyst.	Both.	Few.	As above.	Glass.	H.	R.	Recovered.
9	Oct. 18, '88	30	M.	0	2 yrs.	Fibroid of uterus and double catarrhal salpingitis.	Both.	Yes.	Sewed off ovarian pedicles with catgut as usual; fastened pedicle of fibroid in angle of wound.	Glass.	H.	R.	Recovered.
10	Oct. 18, '88	22	M.	0	2 yrs.	Pyosalpinx and pelvic abscess, with fistula to rectum and vagina; intestines everywhere adherent from former general peritonitis.	Both.	Very dense, so that the operation was extremely difficult.	Cobbler's stitch with catgut, and washed out with hot water.	Glass.	H.	D.	Escape of urine through tube on second day, — and after symptoms of obstruction of bowels escape of fæcal matter on seventh day. did well for two weeks, then sank and died.

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						[illegible] tube occurring 6 days after marriage.	One.	Firm; the left tube was held by adhesions, but the fimbriated extremity was free.	As above.	Glass, followed by small rubber tube.	H.	R.	Recovered.
12	Nov. 15, '88	27	M.	2	2 mos.	Pyosalpinx of right side and serous cyst.	One.	Very firm, greatly impeding the operation.	As above.	Glass, followed by small rubber tube.	H.	R.	Recovered.
13	Nov. 19, '88	26	M.	1	7 yrs.	Pyosalpinx.	Both.	Firm.	As above.	Glass, followed by small rubber tube.	H.	R.	Recovered.
14	Nov. 19, '88	34	M.	0	2 yrs.	Pyosalpinx; confined to bed for eleven months at once; afterwards able to be about, but a great sufferer and morphine-eater.	Both.	Firm.	As above.	Glass, followed by small rubber tube.	H.	R.	Suppuration in track of drainage-tube, sloughing of edges of wound. Long convalescence; septic pneumonia; left hospital in 10 weeks, not in good condition, and died 3 months after the operation.
15	Nov. 22, '88	23	M.	0	3 yrs.	Pyosalpinx.	Both.	Yes.	As above.	Glass, followed by small rubber tube.	H.	R.	Was hysterical and actually insane during convalescence, but recovered physically and mentally.
16	Nov. 28, '88	28	M.	0	3 yrs.	Pyosalpinx.	Both.	Yes.	As above.	Glass, followed by small rubber tube.	H.	R.	Recovered.
17	Nov. 28, '88	32	M.	0	5 yrs.	Pyosalpinx and tubo-ovarian; pus-cysts; fistula opening into rectum.	Both.	So firm that sacs burst on removal.	Sewed off as usual; severed tubes with Paquelin; very thorough washing out.	Two tubes, one glass and one rubber.	H.	R.	Recovered.
18	Dec. 21, '88	33	M.	0	2 yrs.	Pyosalpinx.	Both.	Yes.	Cobbler's stitch with catgut; Paquelin to tubes; washed out.	Glass, followed by rubber tube.	H.	R.	Recovered.
19	Jan. 10, '89	23	M.	0	3 yrs.	Pyosalpinx.	Both.	Yes.	As above.	Glass, followed by [illegible]	H.	R.	Recovered.

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No.	Date.	Age.	Married or Single.	No. of Children.	Duration of Disease.	Pathological Condition requiring Operation.	One or both.	Adhesions.	Treatment of Pedicle.	Drainage.	Hospital or Private	Death or Recovery.	Effect on Disease.
20	Jan. 21, '89	30	S.	0	2 yrs.	Tubercular salpingitis, with involvement of the omentum over a large extent; cheesy masses in pelvis.	Both.	Very extensive, particularly to lower bowel.	Cobbler's stitch with catgut, and washed out with hot water.	Glass, followed by rubber tube.	H.	R.	Fæcal fistula through track of drainage-tube, fourth day, not yet healed; general condition fair.
21	Jan. 28, '89	23	M.	1	1¼ yrs.	Pyosalpinx.	Both.	Extensive.	As above.	Glass, followed by rubber tube.	H.	R.	Recovered.
22	Jan. 30, '89	30	M.	2	2 yrs.	Fibroid tumor; pyosalpinx; abscess communicating with opening in abdomen and vagina.	Both.	Very extensive.	As above.	Glass, followed by rubber tube.	H.	R.	Very much improved; fibroid occasions now neither pain nor hæmorrhage.
23	Jan. 31, '89	36	M	1	1 yr.	Moderate catarrhal salpingitis on right side; serous cyst of ovary.	One.	Firm adhesion of tube and ovary to vermiform appendix.	Catgut as usual, but no washing out.	No.	Pr. H.	R.	Recovered.
24	Feb. 1, '89	43	M.	1		Fibroid and catarrhal salpingitis.	Both.	Yes.	Catgut as usual; Paquelin; washed out.	Glass, followed by rubber.	H.	R.	Recovered.
25	Feb. 1, '89	32	M.	0		Chronic catarrhal salpingitis.	Both.	Ovaries bound down, and firm adhesions to vermiform appendix.	As usual.	Yes.	H.	R.	Recovered.
26	Feb. 7, '89	33	M.	2	11 yrs.	Pyosalpinx and encysted pelvis abscess (tubo-ovarian), some 3 inches in diameter. See Figure 1.	Both.	Adhesions so firm that the large sac ruptured and foul pus flooded the pelvis.	As usual. Very careful washing out.	Yes.	H.	R.	Recovered.

H.—Murdock Free Hospital.

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A study of the histories of these cases reveals some interesting facts.

The patients were all comparatively young. They were all married, except the case of tubercular salpingitis.

They were all attacked soon after entering on married life, except in two cases, where the disease followed child-birth, and in two, where it followed abortion, two where fibroids of the uterus were present, and one where it was pretty clearly traceable to the careless use of instruments in the uterus.

There was a probability of infection from "latent gonorrhœa" in five cases. This origin could not be excluded in many others.

CASE I. is interesting, inasmuch as she has had laparotomy performed three times.

The trouble came on some three months after labor, a large mass forming in left groin.

A clear fluid was obtained by tapping the vagina, the abdomen was opened by another surgeon, and it was closed again, the thickened, congested, and adherent omentum being mistaken for cancer.

In June, a year or more afterwards, I operated and removed a pus sac which was adherent to the omentum and the intestines; it involved the ovary and tube. After a good recovery she left the hospital, but returned in October with an incipient ventral hernia, which I repaired. I took the occasion to feel of the remaining tube and ovary, which, however, were no longer free, but bound down by adhesions; they were left in place, however, as they gave no trouble, and their removal would have necessitated the use of a drainage-tube.

In December I performed the operation for which she had entered the hospital two years ago; viz., the repair of a perineal rupture running over an inch into the rectum, with incontinence of fæces. This healed by first intention, and she is now well.

CASE IX. had, besides a double salpingitis, also a pediculated fibroid of the uterus about four inches long and three in diameter. The symptoms were violent, there had been fæcal impaction, and there was much doubt as to the diagnosis.

The tubes were removed as usual, the myoma freed from adhesions was removed, its pedicle was sewed off with catgut and brought out at the abdominal wound. Recovery was perfect. This case and the next were sent me by Dr. Starbird, of Roxbury.

CASE X., the first fatal one, was of a young woman who had had general peritonitis in London, being confined to her bed for six months. After returning to this country she had frequent attacks of pelvic inflammation, with discharge of pus by rectum and vagina. She was losing strength,

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with continued fever and failure of digestive powers. She lived mostly on milk and brandy. Surgical aid, therefore, seemed necessary.

The intestines were everywhere adherent to each other, and the omentum was adherent to the parietal peritonæum, so that it was with the greatest difficulty that a way was opened to the uterus and tubes. The latter, with the ovaries, were removed with much difficulty, owing to extensive adhesions. A pus sac was also removed from the pouch of Douglas, consisting of the distended tube and of a wall of lymph enclosing pus. The adhesions to the sigmoid flexure of the colon and to the rectum were firm.

In some way the bladder must have been injured; the day after the operation urine appeared in the drainage-tube, and the urine drawn by the catheter was bloody. No motion of the bowels could be obtained for a week, and then the bowel appeared to have been rent, or to have sloughed, for fæcal matter and gas soon afterwards appeared through the rubber tube which had replaced the glass drainage-tube. Nevertheless, the patient did very well for a fortnight after the operation. She had no fever, and gained in health and strength. In fact, she was doing so well that there seemed no doubt of her recovery. Obstinate constipation recurred, however, and when that was overcome a violent diarrhœa came on. The urine now appeared to find its way backward into the bowel; and although the latter was kept drained and washed out, her appetite failed, her strength ran down, and she died twenty-three days after the operation. Possibly it would have been better, when it was apparent that there was a fistula implicating both bladder and rectum, to have cut into and drained the cavity from the vagina.

Case XI.—A healthy young woman was seized with pelvic inflammation six days after marriage, and was confined to her bed for four months. She was sent into the hospital by Dr. Hammond, of Charlestown, for operation. There was a tender mass as large as an orange in the region of the right ovary. She seemed to improve under treatment, so that it was hoped that an operation could be avoided; but at her menstrual period all the symptoms were aggravated. She had a chill, high fever, great pain, etc.

When the acute symptoms had subsided, the right tube and ovary were removed in a mass, after being shelled out from the surrounding adhesions. The left tube and ovary were not removed, as although there were some adhesions which were separated, yet the tube seemed reasonably healthy, and the fimbriated extremity was not occluded. There had been no pain on the left side. It seemed better, in so young a woman, to leave the organ, with a chance, although a slight one, that they might remain healthy. She recovered perfectly.

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CASE XIV. is of importance, from the fact that the convalescence was interrupted by a violent inflammation of the abdominal wound with sloughing of its edges; this, in turn, led to a condition of chronic sepsis, which was explained at the autopsy four months later. The patient was a young woman, who had had a very violent and sudden pelvic inflammation some eighteen months before admission to the hospital. She was confined to her bed for eleven months by this illness, and contracted the habit of consuming large amounts of morphine. One or more pelvic abscesses had formed, and had discharged through the vagina. Although a great sufferer and in failing health, she had very thick abdominal walls from accumulation of fat, owing to forced inactivity. At the operation, the tubes were found full of pus, but they were removed without extraordinary difficulty, and a drainage-tube was inserted as usual after washing out the abdomen. All went well for the first two days, when, instead of clear serum, a grumous purulent matter was discharged, or rather was removed, through the tube. In spite of every care, at the end of a week the abdominal wound became infected, and reopened, every stitch-hole suppurated, and the borders of the deep incision in the thick abdominal wall sloughed for a half-inch all around. With care and supporting treatment, however, the wound cleared off and granulated, the discharge through the rubber-tubes, which had replaced the glass-tube, diminished, and all seemed favorable, when suddenly she had a violent pain in the side with high temperature, and dulness over the lower part of the left lung. Nevertheless she slowly recovered, the wound contracted and finally closed, and the patient left the hospital ten weeks after the operation. She never recovered entirely, however; the wound reopened several times, as I learn from her physician, Dr. Goldthwaite, with the discharge of pus, and finally she died exhausted three months after the operation. During the six weeks after the case passed out of my hands, the patient received the most judicious treatment from her family physician. The autopsy showed an irregular sinus running from the vicinity of the abdominal scar to the left, outside the peritonæum, upwards and backwards, past the region of the kidney, perforating the diaphragm, and terminating in a cavity which represented the lower part of the pleural cavity. The liver was fatty, and there were some purulent collections between the intestines in the vicinity of the former track of the drainage-tube.

Why this patient should have had such unfortunate results, while other and more severe operations were not followed by any febrile reaction, it is very difficult to say; the bad behavior of the abdominal wound, the sloughing and subsequent pyæmic infection, may be attributed, I think, to the bad state of the system caused by long sickness, and espe-

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cially by morphine eating. The original purulent discharge through the drainage-tube, however, must have had some definite origin. I think that it was from the proximal end of the divided Fallopian tubes, and since this case I have always used the Paquelin cautery to sever the tubes.

CASE XVI. — This case is interesting from the fact that the patient had been confined to her bed for three years, with symptoms of pain and repeated, protracted hæmorrhages, caused, as was supposed, by uterine fibroid. The diagnosis was apparently confirmed by physical examination, the pelvis being blocked up by a hard mass. For a fibroid, however, the latter was rather tender and far down in the pelvis. Abdominal section revealed double pyosalpinx, with thick walls and masses of exudate organized into a sort of capsule for each tube and ovary. These were removed, and the patient recovered perfect health and strength.

CASE XVII. — This patient had suffered for years with recurrent discharges from an old pelvic abscess, and was a miserable wreck. On section, a mass larger than a man's fist was found behind the uterus in the cul-de-sac, and another, as large as an orange, was in front of the uterus in the region of the bladder. Each was a pus-tube and ovary with neighboring pockets, surrounded by a sort of capsule. The posterior mass was removed with comparative facility. Warned by my experience in Case X., and in doubt on account of the anomalous position and evident fluctuation of the anterior mass, I had all the urine drawn from the bladder, and finding a cyst still remaining, which was connected with the cornu of the uterus, I succeeded with much care and patience in enucleating it, although it ruptured and filled the pelvis with foul pus. The latter was washed out most thoroughly with hot water, and two drainage-tubes were inserted, one in the place of each of the masses removed, the posterior being glass and the other rubber. After three days the discharge from the ant. tube was purulent, but there was no infection of the abdominal wound, and the patient made a perfect recovery, only disturbed by severe tympanites on the fifth day.

CASE XXI. — This was the only case of tubercular salpingitis in the whole series. She was sent to the hospital by Dr. Flagg, of West Springfield. The patient was unmarried, 30 years old, and up to within two years was strong, stout, and healthy. Within the last year she had failed in health and in strength rapidly, and had lost over forty pounds in weight. She was supposed to have a fibroid tumor, and, as in Case XVI., the pelvis was filled with a hard mass, and it was impossible to make a diagnosis before operation. On opening the abdomen the omentum was found adherent and thickened. With care the adhesions were separated at its lower edge, on one side, and then it was gradually drawn back and found

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to be studded with disseminated nodules. The tubes were distended with cheesy masses, and were removed by the cautery close to the cornu of the uterus. There were many and strong adhesions to the intestines, and in some places no very definite line of separation between the latter and the masses which were removed. As much of the diseased omentum as could be reached was excised after ligation with catgut with the cobbler's stitch, the abdomen was well washed out, and a glass tube inserted. On the fourth day there was a fæcal odor in the discharges removed through the tube. In two days more it was evident that a fæcal fistula had been formed. The contents of the lower bowel were partly discharged through the wound, and partly in the natural way. The whole wound reopened, and was very sensitive, but there was no sloughing, and the patient has gained steadily in strength. At present, March 13, over seven weeks after the operation, the patient is convalescing satisfactorily, there is very little discharge from the intestine, the fistula is closing rapidly, the wound is granulating and contracting, and there is every hope that the patient will recover, not only from the operation, but also from the tuberculosis. Impossible as such a recovery would appear *a priori*, the large number of cases of recovery after operations for tubercular peritonitis and salpingitis which have been reported by Hegar and others, furnish grounds for a reasonable hope of success, and a justification for the performance of the operation.

Cases XXIII. and XXV. were operated nearly at the same time; both had suffered greatly from nausea and troubles of digestion; in both the vermiform appendix was adherent to the diseased tube or ovary. This complication only occurred in these two cases.

Case XXVI. (Fig. I.) — This patient had a difficult labor fourteen years ago, followed by inflammation of the bowels, and she has never been well since. At various intervals she has had discharges of pus through the vagina or rectum. For some six months she has been a great sufferer; and, while waiting at the hospital for some two weeks before the operation, she was not able to leave her bed, having pain, fever, and hæmorrhage. In the pelvis, to the left of the uterus, was a large mass, showing indistinct fluctuation; to the right, and higher, another smaller mass could be felt. Latterly she had been under the care of Dr. J. P. Bush, who was present at the operation. On section, the left tube was found as large as the small intestine, and so closely resembling the latter that by the eye it could not be distinguished therefrom. As one end, however, was clearly connected with the cornu of the uterus, while the other was attached to a fluctuating sac, I proceeded to shell out the latter, and finally removed the tube and the abscess sac, as seen in the specimen

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and in the photograph. During removal, however, the sac burst and deluged the pelvis with foul pus. This was well washed out with hot water, everything was cleaned and disinfected, and then the pedicle was secured, the other pus-tube and ovary was removed, the abdomen again thoroughly washed out, a glass-tube inserted, and the wound closed. There was never any fever nor trouble of any kind during convalescence.

These twenty-six cases, occurring within a period of eight months, comprise all the operations for salpingitis which I have performed up to February 7th. A great many other cases which undoubtedly would be benefited by operation have been declined, postponed, or put under observation, because the symptoms did not seem sufficiently severe to warrant an operation. The cases of pyosalpinx proper, where there are collections of pus in the tubes, or in encapsulated cavities between the tubes and neighboring organs, are the most satisfactory cases for operation, as the indications are clear and urgent, and the danger of carrying such tubes in the body is not inconsiderable. Moreover, it seems as if, by the protracted presence of pus in the tubes, a sort of toleration is acquired, which enables the women to better resist the danger of infection during operation. Otherwise, it would hardly seem possible for cases to recover, even by the aid of the most thorough washing out, when the pelvis has been flooded with foul pus, owing to the bursting of a pus-sack during removal. In the chronic cases, however, where there is no suppuration, but where there is much suffering from the effects of previous inflammation, in the shape of adhesions, which bind down the tubes and surround the ovaries, compressing the latter, and impeding the physiological enlargement at the time of menstruation, it is often difficult to decide whether an operation is indicated and warranted by the amount of actual suffering. The decision must be influenced by the age and circumstances of the patient, whether she must work or can be waited on, whether she can receive constant medical attention, etc.

All the above cases were in a deplorable condition before the operation; all who recovered were greatly benefited by the latter; all had had long and varied local treatment. The cases were so similar that it would be tedious to repeat the histories in detail. They may fairly be considered as types of a form of disease which is very prevalent, very distressing, and practically incurable except by an operation, which, although difficult, does not seem to be very dangerous; while, on the other hand, the disease, without operation, involves considerable danger by the continued presence of pus in the pelvis, the repeated formation of abscesses, and the wasting effects of protracted discharges.

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SKIN ERUPTIONS DURING THE CLIMACTERIC. — URTICARIA.

BY W. P. MANTON, M.D.,

Visiting Physician to the Woman's Hospital, Secretary of the Detroit Gynæcological Society, etc.

In the life of woman there are two periods during which the sexual apparatus becomes, as it were, dictator, — upon the command of which hang the fashion of the functions of all the other organs.

At puberty, the establishment of sexual life, the child casts aside childhood — the pupa-skin of the imperfect creature — and emerges a completed woman, fully endowed with the powers and responsibilities of reproducing her kind. At the climacteric, the cessation of sexual-entity, there is a retrogression to the primal state, the woman having completed Nature's cycle.

Obviously, neither puberty nor the menopause are attained without great changes — indeed revolutions — in the animal economy. We are all quite familiar with the various conditions which usually result when there is some deviation from the normal during these important periods, and the laity are also well aware that the change of life is a time when hitherto dormant conditions and diseases are likely to crop out, — hence the universal dread of this stage of existence. Although the manifestations which are noticed during the climacteric are sometimes of the most grave and fatal character, they are often ephemeral, appearing to be little more than the result of caprice, and dependent upon some cause that is too trifling to be of the slighest moment at other times. Among these temporary disarrangements may be classed certain eruptive diseases of the skin; and to one of these — namely, urticaria — I desire to call your attention in this brief paper. It cannot be said that urticaria is rare or even uncommon; for, as is well known, nearly everything from a mental impression to an indigestible bit of shell-fish or slight external irritation may give rise to a crop of wheals and itching. That this neurosis should appear during the critical period of life once, twice, or more times, without apparent dependence upon external influences, ingesta, or mental emotions, and in persons who never before have been, nor afterwards are, afflicted with the condition, or that it should be the result of a drug which a few months prior or a few months subsequent to the occurrence fails to produce the eruption, must, I believe, be looked upon as at least curious, if not interesting.

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1. Mrs. R. is a small, delicately built brunette, with prematurely gray hair, which gives her the appearance of being much older than she really is. While passing through the period of menstrual irregularity preceding the menopause, she is suddenly attacked with general urticaria, which appears and disappears at intervals during a period of several months. There is no ascertainable cause for the attacks, the external conditions of life being the same as usual, and there being no mental worry to account for the condition.

2. Mrs. A., medium height, well-built brunette, has been accustomed all her life to taking quinine for various slight ailments. During the interval between the last two or three periods of flowing before the final cessation, she had occasion to take five grains of the drug. In a short time the body was covered with a crop of urticaria wheals of the confluent variety. After several hours of the most intense itching, the eruption passed away and gave no further trouble. A few weeks — perhaps three months — later, having occasion to again prescribe quinine, and thinking that the former attack of rash had probably been due to some digestive disturbance, I again gave her five grains of the sulphate. In as short a time as the remedy could be absorbed, the body again became covered with the erythematous eruption, the attack running its course in a few hours.

3. Miss C., a well-built, well-nourished brunette, several months after the removal of both of the ovaries for disease and prolapse, suddenly developed a most aggravated attack of urticaria. This ran its course in a few hours, but appeared and reappeared during a period of weeks, and then vanished for good.

In neither case, 1 or 3, was there an assignable reason for the outbreak. In case 2, the quinine administered appeared to be the active agent in producing the condition; but why should this peculiar nervous explosion have occurred at this time, when only shortly before the drug produced no such effect? The eruption caused by the second dose, three months after the first exhibition of the drug, might, according to Creighton's theory, I believe, have been a case of unconscious memory in disease.

"Whether it," he says, speaking of skin diseases, "takes the form of mere dogged persistence, *ici je suis, ici je reste*, coming back time after time at the same spots, or of encroaching on areas of skin unimplicated before, habit has become the second nature of the eruption, and the memory or retentiveness resides in the nerves or nerve-plexuses of the skin." Since Kaposi and other writers on skin diseases place urticaria under the reflex-neuroses, — a result of some local irritation reflected

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through the sensory nerves to the skin, — we must, if we attempt to explain the cases which I have just noted, believe that some unknown and peculiar irritation of the pelvic or sacral plexus exists at the times when the skin eruption appears, but of the nature or cause of such an irritation we can but confess ourselves in total ignorance.

83 Lafayette Avenue, New York.

CORRESPONDENCE.

To the Editor of the Annals of Gynæcology:—

Sir, — In the issue of your journal for January, 1889, was published a paper which seems worthy of a few comments, which I should be glad to make if you can spare enough space in your columns for such matter.

The paper contained the details of treatment adopted for the removal of an intra-uterine fibroid tumor of great size, occurring in a patient æt. 49, who was greatly weakened by long-existent profuse hæmorrhage. The author deeming it unnecessary to refer such a case to a specialist, resolved to attempt the removal of the tumor, which he discovered to be pedunculated, as it was attached to the anterior uterine wall by "a short, thick stalk, which we estimated to be two or three inches in diameter." Sponge tents were introduced twice daily, and small doses of ergot administered, until, after six days' time, sloughing of a portion of the cervix was noticed as a result of pressure by the tumor as it was forced down by uterine contractions, and the use of ergot was discontinued. At this time the formerly rigid and long cervix had become thinned and all but obliterated, and the surface of the tumor was plainly visible. But resisting the impulse — a quite natural one, by the way — to divide this thinned cervix and attempt the delivery of the tumor, because of a desire to spare the exsanguinated patient from hæmorrhage and shock, and from fear that the uterus might become inverted as the tumor was pulled down into the vagina, although the cervix had been so pressed upon as to show incipient sloughing, and the tumor itself was so bloodless that "we could plunge the scalpel into the handle without the loss of a drop of blood," and an inversion of the uterus not only would have allowed of the perfect control of the pedicle, but would have been most easily replaced, a unique plan was adopted. The capsule was incised and a portion of the bloodless tumor was torn away with strong lion-jawed forceps; this being repeated at *daily sittings* for a *month's time*. Great care was taken "not

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to do too much" at these daily sittings, but only to remove that part of the tumor which presented at the *os uteri*. "The second week after detachment was commenced, *it was evident* that there were parts of the growth undergoing *suppuration and gangrene*, for the discharge from the uterus was *copious* and of a *vile, unbearable odor*." But the daily tearings were continued, care "not to do too much" being religiously exercised, though antiseptic irrigations were freely used. The patient, strange to say, developed grave constitutional symptoms — the temperature on one occasion reaching 104° F. — and became very weak. Moreover, a phlebitis of the left saphenous vein made its appearance, a complication which the author has failed to find noted by any "contemporaneous writer," and of which the "pathological connection with the operation he cannot explain." Finally, the case has been reported mainly for the purpose of emphasizing the author's opinions "on the question of these cases being dealt with by the general surgeon. The careful, conservative surgeon is guided by the same principle whether he is doing a lithotomy or an ovariotomy, and why he should be warned off the domain of gynæcological surgery is not easy to understand."

The obstetrician or gynæcologist needs no demonstration of this reason other than the history related in this paper, if that be the best argument in favor of his opinion which the author can advance. It is hard to understand how the author could have carefully examined the standard works on gynæcology and have preferred subjecting his patient for more than two weeks to continuous septic poisoning, which was the actual condition present as related by himself, carefully refraining from removing too much of a putrid mass from the uterine cavity at any one time, because of the recorded dangers of shock, hæmorrhage, and possible septicæmia, which, in a few cases, have caused a fatal result, even in the practice of experts. What literature was "accessible" to the author is not mentioned; but as Emmet is quoted as reporting a few fatal cases, his classical work must have been consulted. In the edition of 1880, Emmet says (p. 562): "I regard the removal of a portion only of the tumor as an unwarrantable procedure, since the whole can be removed with almost as much facility as a part, and with less risk;" and on p. 593: "When the operation has been once commenced, there is but one course to follow; namely, to remove the entire tumor, as this is attended with least evil and risk to the patient." In all the "accessible literature" at my disposal just now, including the works of Thomas, Hart, and Barbour, Hewitt, Sims, Goodell, Edis, and Courty, particular stress is laid on the danger of leaving a portion of the tumor behind after it has once been attacked by the surgeon; and the great cardinal principle which dominates all gynæcological

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surgeons — and general surgeons as well — is to remove, when possible, any source of septic infection, especially when located in the uterine cavity. The strange thing to be noted in the history as given is the almost miraculous recovery of the patient under the circumstances; and the most interesting feature of the case is the illustration it affords of the well-known fact that the surgeon who dabbles in gynæcology is at once the most timid and the most reckless of operators. He magnifies the dangers which accompany the simplest of uterine operations, but will do, without a moment's hesitation, what a gynæcologist of any experience would shudder at the very thought of doing.

If the general surgeon must practise gynæcology, — and I am far from being one who believes that he should never do so, — at least let him adopt a system which, if not sanctioned by overwhelming testimony of experts, is at least in accord with the tenets of general surgery; and also let him take the trouble to personally investigate the rudiments of gynæcological technique by observation of the work of experts, as well as learn the fundamental principles of the art he practises.

GYNÆCOLOGIST.

REVIEWS.

HAND-BOOK OF MATERIA MEDICA, PHARMACY, AND THERAPEUTICS. By Cuthbert Bowen, M.D., B.A. F. A. Davis, Publisher, Philadelphia and London. $1.40 net.

THIS number is one of the "Physician's and Student's Ready Reference Series." The author says, "The oft-expressed wish on the part of students about to present themselves for examination for such an epitome of their three years' reading is the author's apology for adding another medical work to a catalogue already swollen to overflowing." The students now have their wish gratified, and we shall expect to hear of no more books of this nature on these special subjects. It is difficult to write a book of this or any other sort that shall please every one. We cannot expect to find much that is new in this work, and judge that the author would not make such a claim. Students will find the book valuable to them in preparing for examination; but, like all "compends," "handbooks," and the like, we wish it could be kept out of the students' hands until that time. The tendency is to rely too much on digests and extracts. We do not advise giving so many prescriptions in a book intended for students. How many medical men will testify that they left college with

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a list of prescriptions "as long as my arm," fired with enthusiasm to do or dare!

A Latin vocabulary of medical terms is given, and we sincerely hope that it will help to reform the fearful and wonderful terminology with which our pharmacists are familiar on prescriptions.

The subject of "Incompatibility" is dealt with in a practical and accurate manner.

H. P. N.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

THURSDAY, FEB. 7, 1889.

DR. THEOPHILUS PARVIN in the chair.

Dr. LONGAKER. — A case of *placenta previa*.

The features of interest in this case are: (*a.*) Hæmorrhage at the seventh month in P. P. Lateralis.

(*b.*) The patient was in a septic condition when first seen, a week after commencement of hæmorrhage. She was also very anæmic.

(*c.*) Turning by the bi-polar method was at once done, and a living seven months' fœtus was born.

(*d.*) The patient made an excellent recovery, and was sitting up in two weeks.

(*e.*) The surface of the placenta showed traces of fatty degeneration. It contained a clot the size of a walnut, and several days old. Placenta previa occurred at her last confinement, three years ago, and she came near losing her life from hæmorrhage, both before and during labor.

Dr. HOFFMAN. — A case of *pyosalpinx*.

"I shall go into the *history of this case* with rather more attention to detail than would be warranted, were it not for some features of previous history and treatment, which render it, in some respects, more than ordinarily instructive.

"Mrs. G., æt. 28, came to me for examination in August, 1888. Her history at the time was unsatisfactory, giving simply record of a discharge for a long while, and great pelvic pain, especially on the right side. A miscarriage was admitted. Examination showed a painful mass, bound down to the right cornu uteri, so tender that exact mapping out was impossible. I doubt, however, whether even under an anæsthetic an accurate diagnosis could have been made of the condition as revealed by operation, owing to the involvement of intestine. Intestinal adhesions always increase the size of ovarian and tubal tumor, rendering the deci-

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sion of absolute extent impossible. The left side also was evidently involved, but was not so painful as the right. I made no great effort to determine the extent or nature of this involvement, inasmuch as her condition was evidently one for operation, as I told her, saying, at the same time, that treatment would be entirely useless. She left my office crying, and I saw no more of her until two days before operation, Dec. 18, 1888. I then ascertained that after seeing me she had gone to four other physicians, first to one whose diagnosis was uterine displacement, and whose treatment was the introduction of a pessary, strangely enough with the result of apparent relief. She then visited the clinic of the Woman's Hospital, and was comforted with the assurance that there was nothing the matter with her, and that she should go home and have a baby. She received like advice at the University. An up-town specialist, into whose hospital she afterward went, with the intention of operation 'for a ruptured blood-vessel,' the then diagnosis, told her there was no necessity for operation, advising her that she was wise not to have submitted to it at my hands, promising her, at the same time, that she should have a baby, and to promote this end the uterus was curetted. Time wearing on, she again visited her last adviser, who now made the diagnosis of a ruptured blood-vessel, and advised operation for its 'tying.' At this juncture she again fell into my hands, much reduced from excessive hæmorrhage for three weeks. I did not examine her, but urged immediate operation, to which she consented. Two days later abdominal section was done. Assisted by Dr. J. Price the right side was first explored, and the ovary and tube found everywhere densely adherent. Enucleation was accomplished with much difficulty, and when attempt was made to apply the ligature, the tissues were found so rotten that the blood-vessels alone withstood the tension of the silk. The right cornu uteri was so involved that it was simply a mass of abscess tissue, and had to be curetted in order to free it from the necrosed portions. The bleeding was now so profuse that the application of a new ligature was necessary. The second ligature was wholly about uterine tissue. The left side was then examined, and found even more extensively involved than the right, but without the presence of pus. The adhesions were more dense, but the tissues not being necrosed, there was no difficulty in obtaining a good pedicle. The involvement of intestines was so great that I fully expected a fæcal fistula to result, in spite of careful suturing. The right tube contained pure pus. A drainage-tube was introduced, and kept in the incision a little more than a week. The only complication was severe inflammation of the bladder and phlebitis of left internal saphenous vein. The patient is at present moving about her room.

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"The history of her trouble, since obtained, is interesting. She was married at sixteen; six weeks after her marriage her husband deserted her. Her baby lived seven months, going blind some time before its death, having sores, and becoming very emaciated. At this time she began to have a bad discharge, which inflamed her private parts, which were also much swollen. Had great pain on urination. She did not have intercourse for twelve months after the birth of her baby. She then contracted an alliance with another man, and afterwards, within three years, had two miscarriages, and a still-birth at eight months. Her hair has fallen out, but aside from this, she has had no other signs of syphilis. The question here arises, What was the origin of the pelvic trouble? Was it gonorrhœa, syphilis, abortion, or the after-effects of labor? That there are chances for believing, according to the various aspects of the case, that perhaps one, then the other, of all these agencies, entered into the causation of the disease, will, I believe, be not disputed. Whether or not it is so conceded matters very little, however, so far as this case is concerned. That all these factors may bring all the various forms of pelvic disease cannot be rationally disputed. That we can dogmatically affirm that any pelvic lesion is brought about by any one of these causes, with the exception of gonorrhœa, as proved by the presence of the gonococcus, is not to be for a moment entertained. The fact is, we can have the symptoms of pyosalpinx simulated in all its essentials by an entirely different condition; to wit, tubercular disease of the appendages. To consider the relative frequency of each of these factors in the production of pelvic disease, is not my purpose; but it requires more than the dogmatic assertion of any operator to prove that this, that, or the other cause is always at the bottom of the lesion. But while the etiology of the trouble may be obscure, in well-defined lesion like the one under observation, the diagnosis ought, in most instances, to be made, or, if it cannot, the question concerning it should be gone over, chances for error discussed, and once for all have it confessed that the subject of pus-tubes and ovaries is not too hackneyed for consideration before a society such as this. We read of the infallible bimanual examination which is able to pick up a Fallopian tube or distinguish varicose veins in the broad ligament, and then suddenly are confronted by failures such as I have here recorded. The fact stands out that the diagnosis insisted upon by the men who are accustomed to 'claim everything,' is a myth, and, as Mr. Tait says, fit only for library papers. It is incredible that the diagnostician who can recognize, map out, and differentiate the Fallopian tubes, should fail to recognize a mass the size of a small fist. Let us by all means have diagnosis, but let it be *diagnosis*, not myth. In this case, the diagnosis,

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promises, and treatment well nigh lost the woman her life. She wanted a baby, and she was promised one. She nursed the delusion for three months. Promises may hold patients; they do not work cures, nor save reputable medicine the slur and suspicion of quackery. I believe, in the present case, that the curetting was directly responsible for the involvement of the uterine tissue. In the presence of tubal disease, there is no excuse or palliation for the use of the curette. I believe that the so-called operation of 'dilating and scraping' is responsible for much tubal and ovarian trouble that would otherwise remain quiescent. I have now a case under observation where this procedure was resorted to, without relief; then electricity was tried, and to-day the patient is worse than ever, with operation her only relief."

Dr. HORATIO R. BIGELOW, through the Secretary.—*Apostoli's place in gynæcology.*

After some complimentary remarks on Apostoli himself, Dr. Bigelow went on to discuss the armamentarium necessary for carrying out the electrical treatment. He thought it necessary to have a galvanic battery, a faradic battery, a collector, a galvanometer, intra-uterine electrodes for both currents, and one for carrying both the positive and negative of the induced currents within the uterus, bulbous charcoal-pointed electrodes of various sizes for galvano-caustic applications, intra-uterine platinum electrodes, and large bulbous vaginal and rectal electrodes. The belly-plate could be made of potter's clay, in which the metal plate could be buried, or better is the plate devised by Martin, of Chicago. A good galvanic battery should have a slight chemical action and a great constancy. The Léclanché cells, or those of Daniell, he thought the best. With thirty-six Léclanché cells, without a rheostat, a strength of from three hundred to three hundred and fifty milliampères can be gotten. He thought that the collector was invaluable, and that to measure the dosage exactly was an absolute prerequisite of success. The best galvanometer was that made by Gaiffe. The best faradic battery was that of Gaiffe, with a chloride of silver pile; and the induced current of high tension from the long, thin wire was the one to be generally used within the uterus.

"The induced current penetrates the tissue profoundly by reason of its high tension, but, contrary to physical laws, the continuous current of low tension has a longer and more profound action. We have proved the diffusion of the electric currents, and that the galvanic current propels itself through organic tissues, its influence being felt at remote points; the current *never remains limited between the two poles*" (Onimus). "If we now consider the difference that exists between continuous and induced

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currents during their constant passage, we find that it is not difficult to distinguish between them, as the line of demarcation is clear. The induced current acts for an exceedingly short time during its passage. It produces at each instant of passage a greater or less excitation and causes molecular shock. The induced current acts mechanically as an excitant, but the continuous current penetrates more gradually the tissues, but more profoundly, acting chemically in such a way as to produce molecular orientation and chemical combination" (Onimus). The induced current traversing the liquid, semi-liquid, or solid substances that go to form the human body produces no chemical action whatever, simply a mechanical, molecular disturbance. The continuous current, however, not only produces its chemical action at the poles, but this molecular disintegration and orientation is propagated throughout the zone between the poles. Just what the galvano-caustic action is that dissipates a tumor is not yet known; whether it coagulates the albuminoids, or creates interstitial inflammation, he does not know. *It does reduce the tumor*, and it remains for us to find out the *why*. He believed that time would demonstrate a change of *cell life* in addition to the purely chemical action which takes place around the poles. In Apostoli's clinic the induced current is not often used. It has a wondrous effect, however, upon the ovarian pain in hysterical women. Dr. B. has now seen twenty cases of this kind, and every woman received immediate relief after a *séance* of ten to fifteen minutes. He has seen a large number of bleeding fibroids, but has as yet to see one that failed to respond immediately to the continuous current, the positive pole being within the uterus. Apostoli often carries the current up to three hundred and fifty milliampères without any discomfort to the patient. It is most important that every part of the lining membrane of the uterus should be treated, and every hæmorrhage, no matter how severe it may be, will desist. Dr. B. affirmed that the treatment would also very appreciably diminish the size of fibroids, and at times entirely dissipate them. He quoted cases to prove this point. Punctures were made into the tumors to the depth of from one to three centimetres, with a lance-pointed steel needle, the *galvano-negative* caustic being used, usually. Everything was religiously clean and antiseptic. None of the patients had any bad symptoms. He affirms that Apostoli's method arrests hæmorrhage, diminishes size, relieves pain, and improves nutrition, without endangering life, better and more surely than any other method, and asks, Why then resort to Tait's operation of excision of the appendages? The catarrhal forms of salpingitis yield kindly to the simple action of the continuous current, one pole in the uterus. Dr. B. is not yet ready to offer any decided opinion in regard to pyosalpingitis. He, however, cited

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several cases where negative puncture of the tube relieved or cured the case. In metritis the galvanic or faradic current should be used, as one or the other agrees with the patient. Apostoli says that "this treatment, applied according to his double or bi-polar method, is an excellent and sometimes sovereign remedy in certain cases (recent subinvolution, chronic metritis in its first stage); inefficacious, or, at least, very insufficient in others (such as chronic metritis in its latter stages), and endometritis in any form." In endometritis the continuous current and the positive pole within the uterus are used. He cited some cases of fungoid endometritis which had been cured. Dr. Apostoli faradized every woman, even when under an acute attack, who was suffering from peri-uterine inflammations, observing certain rules which he has laid down. In the subacute stage, he uses first bi-uterine faradization, with a current of tension; when the inflammation begins to give way he used the intra-uterine continuous current, beginning first with the positive pole and following with the negative, as soon as he is sure that the patient can bear it. In the chronic stage use the continuous current and galvano-puncture (negative), making the puncture in the diseased part itself. In old cases of perimetritis, with much tenderness around the utero-sacral ligaments, much relief may be obtained by the vaginal electrode in the posterior fornix, while the negative pole is on the abdomen, using the induced current of high tension.

Dr. JOSEPH PRICE. — *A year's work in a maternity hospital.*

"In making this report, I desire briefly to call attention to the amount of work done, the routine-treatment of patients, and a few alterations which have taken place in the building. During the year 1888, there were one hundred and eighty-four deliveries in the Retreat. Of these patients, sixty-nine were primiparæ. There were one hundred and eighty-six children born, including two sets of twins; nine of these infants were still-born, one hundred and two were males, eighty-four were females. There were thirteen forceps deliveries. Labor was induced in two cases in the eighth month. In one case a contracted pelvis, and in one the presence of a large uterine tumor. There have been no deaths of *mothers* in the Retreat for a period of nearly five years, furnishing a series of five hundred and forty deliveries without a death, the last death being from puerperal convulsions in a patient suffering from chronic Bright's disease, and who had had convulsions in five previous labors. Since this death there has not been a case of puerperal septicæmia in the institution. The great success attending the work of this maternity is due to the strict enforcement of the law of cleanliness. Everything and everybody in the house is clean, and jealously kept so. This system was enforced by Dr. Goodell, and has been carried out on the lines laid down

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by him. The routine treatment of patients is as follows: The patient on entering the house is given a hot soap-bath, dressed in clean undercloth-ing, and given a clean bed in the waiting ward. If necessary, a laxative is given, and the bowels kept soluble during her waiting period. There-after, until her confinement, she is obliged to take at least two hot soap-baths per week, and to wear clean clothes. She is allowed to do such light work about the house as the physicians may deem advisable, and is encouraged to take as much open-air exercise as circumstances will per-mit. Every effort is made by the officers and employees of the institution to make it as cheerful and homelike as possible. When ready for the delivery-room, the patient is again given a hot soap-bath and an enema, and a vaginal injection of one to two thousand bichloride of mercury solution. She is clothed in clean night-robe and drawers, and placed upon a new, clean delivery-bed. Scrupulous cleanliness is observed in all manipulations of the patient, and after delivery a second vaginal injection is given, and a vaginal suppository of iodoform is introduced. The patient's person is carefully cleaned and all soiled clothing removed, the binder applied, a clean set of night-clothes put on, and the patient placed in a new, clean bed in the ward. All of the soiled articles are immediately removed from the delivery-room and a new bed made up for the next patient. The patients in the ward are carefully observed by the nurses, but no unnecessary handling or interference indulged in. The patients remain in the ward until they are able to be up, when they are removed to the convalescent ward. As the ward is emptied, the straw beds are burned, and all the bedding most carefully cleansed. No soiled linen (as draw-sheets, diapers, napkins, or other articles of clothing) is allowed to remain in the ward, but when soiled is immediately placed in a covered receptacle and removed from the ward and building. No sponges, wash-rags, or absorbent cotton are used in the house. Corrosive jute supplies the place of these articles, being clean, soft, remarkably absorbent, and cheap; it is destroyed immediately after use. The pads used to absorb the lochia are also composed of jute, and are likewise destroyed after use. The beds in the wards are of new straw. All discharged from the delivery-room are immediately burned. All bedding soiled beyond cleansing, or contaminated by purulent or specific discharges, is likewise burned. In short, every effort is made to keep the house per-fectly pure and sweet. The arrangement of the house permits of rotation in the use of the wards, so that a ward once emptied is not again used until three others have been filled. In the mean time, it is most carefully and scrupulously cleaned and thrown open to the atmosphere. A similar system is pursued in the convalescent wards and delivery-room. A few

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alterations in the building have very markedly increased the effectiveness of the institution and the comfort of its inmates. In the first place, the bath-room and water-closets have been removed from the building proper and placed in the towers in the rear. The plumbing is as near perfect as modern sanitary science can make it. The verandas have been enclosed in glass, forming large, light, airy corridors about the rear of the building, and furnishing a distinct circulating atmosphere between the house proper and the wards and the water-closets. The ventilation of the entire building is simply perfect. The capacity of the house at present is about fifty patients per month, and when a few contemplated changes are made, the capacity will be doubled, and the institution rendered as nearly an ideal maternity hospital as is practicable."

Dr. Wm. Goodell said it had always been a matter of great regret to him that he did not adopt this system a year or a year and a half before he did. He supposed it was partly due to the conservatism of old age, and partly to a series of some forty deaths from bichl. poisoning he had collected. Farnier's reports of the results following the use of this agent so impressed him that he was led to make the change. Before he adopted the system which has just been detailed by Dr. Price, he had once as many as five deaths in about one hundred and fifty cases—four of these due to septicæmia. Latterly, hardly a year would elapse without the occurrence of one or two deaths. When he first started, everything about the institution was new and clean, and for several years he had the best record of any maternity hospital in the world. After the building and articles had become old, deaths began to occur. He tried carbolic acid, but it proved of little value. After beginning the use of corrosive sublimate injections, iodoform suppositories, and antiseptic pads, he did not have a death from septicæmia. The only death was one from Bright's disease of the kidneys. During this time he had been consulted, perhaps, a dozen times in the course of a year to see women dying from puerperal septicæmia. He thought that in private practice it would not be needful to follow out so strictly the details of the method as it is practised at the Preston Retreat. For instance, the antiseptic pad and the iodoform suppositories might be done away with. He believed, however, that every practitioner should syringe out the vagina, both before the birth of the child and after complete delivery, with a bichloride solution of $\frac{1}{2000}$. The hands should also be disinfected. He was called in consultation by a physician in the country who had had four or five deaths from sepsis in a short time. He found that this physician had been treating a case of phlegmonous erysipelas. He knew of another physician who had lost, he thought, seven cases — certainly five — from dressing a sloughing

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case of erysipelas. Antiseptic measures would probably have saved all these cases.

Dr. HENRY LEAMAN would call the attention of those who have the opportunity of observing the physiological processes of labor to one point; viz., presentation. It is very difficult to accurately determine the presentation, particularly of the face, brow, and posterior presentations. These observations should be verified by examination of the abdomen previous to labor, and the location of the fœtal heart-sounds. They should also be confirmed by observation of the position of the head in the act of delivery. A mistake is readily made in posterior presentations. Posterior presentations are, he thinks, more frequent than we are in the habit of considering them. His object in speaking was to say that every case of labor was a case for the minutest observation. There was another point which he thought should be observed, — that was the hour of the day at which labor occurs. There is, he thought, probably some connection between arterial pressure and the time of delivery. In recording the hour, there would be an allowance to be observed in cases where the forceps were used. There was another point not mentioned, and that was the position of the succedaneum and its extent. These have to do with the natural process of labor, and aid in determining the presentation.

Dr. J. PRICE said he was as anxious about a labor as he was about a section, when he read reports of maternity hospitals with a mortality of from two to twenty-seven per cent. This troubled him not a little, now that he controlled a large maternity hospital, one in which Dr. Goodell had left a record of two hundred and seventy-five cases without a death. He sees case after labor as frequently as he does a drainage after abdominal section. When this hospital was new, Dr. Goodell had a run of two hundred and fifty cases without a death from any cause. This was the longest run of any institution at that time. After this, deaths began to occur. Later Dr. Goodell adopted the gospel of cleanliness, and with what result he has just told you. The results are now precisely the same as he left them. In regard to Dr. Hirst's question as to whether the same results might not be obtained by simpler methods, Dr. Price said that they did not differ much in regard to the use of solutions and that portion of the treatment. The toilet of the house was perhaps just as systematically carried out at the Philadelphia Hospital as at other institutions. The pad which he had shown would hold a pint of fluid. It saved an immense amount of laundry work. It was now coming into use as a menstrual pad, and was very convenient for ladies travelling. In private practice the mortality was greater among the rich than the poor. Among the poor he had had seven hundred deliveries without a death. He thought the difference was in

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the water-closets which the better classes had in their houses. The mortality throughout the country was large. In a small town in Ohio, with a high elevation and beautifully located, he had recently known of two deaths from septicæmia. Last summer he had been called to see puerperal cases nine times, and all died.

J. M. BALDY,
Secretary.

THE DETROIT GYNÆCOLOGICAL SOCIETY.

STATED MEETING, Nov. 7, 1888.

THE Society met at the office of Dr. Manton, the president, Dr. Longyear, occupying the chair.

EXHIBITION OF PATHOLOGICAL SPECIMENS.

Dr. TAPPEY showed the ovaries and tubes of a nulliparous woman, who had suffered a great deal in various parts of the body, especially in the heels. The patient was 23 years old, and had been married to a man addicted to drink, but from whom she had now been separated for two years. As a girl she had been perfectly healthy, the conditions for which the operation was done having developed during her married life. One night she was awakened from sleep by her husband, who struck her in the region of the ovary, and threatened to kill her. Besides the fright occasioned, she was made much worse by the blow.

The operation had been done three weeks ago, since which time there had been no unfavorable symptoms.

Dr. WARNER asked if the operation had resulted in relief.

Dr. TAPPEY replied that for the first two weeks there had been some pain, but for the past week the severe pain in the heels had been entirely relieved. The patient had had no anodynes.

Dr. WARNER. Was the pain increased at the menstrual period?

Dr. TAPPEY. Yes.

Dr. LONGYEAR inquired if the flow had been increased, as he had noticed that it is often very scanty in these cases.

Dr. MAIRE asked as to the medical treatment; to which Dr. TAPPEY replied that he had had the patient under observation for about six months, and had tried all the usual remedies, including galvanism, but the results were almost negative.

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Written Communications.

Dr. Hutton read a paper entitled, "Some of the Remote Effects produced by Retention of Portions of the Secundines," in which he considered that many of the cases which get up so slowly after confinement, suffer from elevation of temperature, hæmorrhage, general malaise, etc., are the result of material left behind in the uterus after labor."

Discussion.

Dr. Maire thought that the treatment advocated was that usually taught by the leading gynæcologists and obstetricians. His own rule is to wash out the vagina and uterus after every labor, premature or at term, where there is chill or fever. In such cases he considered continuous irrigation to be of undoubted value. For douching, a $\frac{1}{2000}$ bichloride solution is too strong. Charpentier speaks of a case of sloughing of the uterus where this strength had been used. It is remarkable how soon the temperature will often fall after such a douche.

Dr. Manton said that he was opposed to temporizing in these cases. He did not hesitate as soon as there is a rise of temperature to wash out the vagina and uterus, and if that did not immediately have the desired effect, — provided, of course, that the pyrexia was not due to some other recognizable cause, — he was accustomed to curette the uterus pretty thoroughly. He had had quite an experience in this line of treatment, and had invariably found the results to be satisfactory.

Dr. Longyear remarked that he was of the opinion that the so-called malaria following childbirth was oftener due to infection. Where the temperature remains high, it is usually caused by some decomposing material in the uterus, the removal of which results in the disappearance of the malarial symptoms.

He differed from the reader of the paper in not using his finger in the operation, but the forceps which he had devised, and which had been exhibited before the society. In using these, there was no danger if proper antiseptic precautions were observed, and it was usually unnecessary to give chloroform.

Dr. Hutton, in closing the discussion, said these cases where, after labor, there is pain in the back, inability to get about, etc., demand that active measures be employed. It mattered little whether the finger or an instrument is employed in moving the retained fragments, if they are only removed.

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Report of Cases.

Dr. Warner reported a case where there was no retention of secundines, but owing to an anteflexion, the lochia did not flow out readily. The temperature did not range high, but the patient appeared dull, so she washed out the uterus, using a double catheter. This was followed by chill and high temperature, with considerable disturbance, but as soon as these subsided, the conditions at once improved.

Dr. Longyear said that he thought that the condition might have arisen from shock, very much like that observed after the sudden opening of an abscess.

Dr. Maire spoke of two cases of painless labor, in which neither of the patients complained of suffering until the child's head was passing over the perinæum, when they cried out. Dr. Manton mentioned a similar case which he had recently attended. During the labor, the patient, a primipara, had remarked that she thought it "real fun." Dr. Longyear reported a case which he had seen at the Woman's Hospital. The patient was twenty-two years old, a heavily built woman with broad feet. Upon each hand and foot was a supernumerary digit. Labor had been in progress since the day before he saw her. The head was in the third position, but had not engaged; the os was dilated. The promontory of the sacrum projected to a marked degree; there was an antero-posterior diameter of three and one-half inches. Forceps were applied, but without success; and as the pains were not severe, he decided to watch the case. A dose of morphia and quinia were given, and the patient slept well during the night. The next morning the head was found impacted in the superior straight. There seemed room enough in the pelvis laterally, and the Tarnier forceps were again applied; but the head could not be moved even after the bones had been perforated and the brain washed out. There appeared to be no fontanels.

At this point Dr. Carsters was called in, and together they succeeded in removing part of the head piecemeal with the bone forceps, and then delivering with Tarnier's forceps. There was great difficulty in delivering the shoulders and the hips. The remains of the child weighed eleven and one-half pounds, so that before the operation it could not have weighed much short of fourteen pounds. The child also had the supernumerary digits, and was built in every respect like the mother. During the operation the patient's perinæum was torn through the rectum; this was afterwards repaired.

Dr. Manton spoke of a case which he had recently seen in consultation with Dr. Gibson. The patient had produced abortion on herself by

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shoving a lead-pencil into the uterus. The pain had been severe from the start, and out of all proportion to the symptoms, there being no peritonitis. After expulsion of the ovum, the hæmorrhage had continued. On examination, he (Dr. Manton) found the uterus filled with blood-clot and *débris*, which was removed, and the cavum gently curetted. He then discovered that there was a small submucous fibroid in the right uterine horn. The internal os was divided on either side by a bistoury, the uterus washed out with a carbolic lotion, and then swabbed with iodine. The case recovered in a few days, all pain having disappeared. The speaker thought that it was rather unusual for so small a fibroid to cause such great suffering.

Adjourned.

DEC. 5, 1888.

VERBAL COMMUNICATIONS.

In the absence of the reader for the evening, Dr. TAPPEY reported the following case: Eight months ago he confined a patient who was taken care of by a trained nurse. The patient developed puerperal fever and pelvic abscess, the latter finally rupturing into the rectum, the patient making a good recovery. During her service, the nurse, who was about 35 years old, herself became infected from the discharges, and was so sick that she was sent to the hospital. She had a high temperature, — as high as 106°, — with severe chills, headache, etc. Later there were rigors, subnormal temperature, and she complained of a severe pain in the region of the left ovary. There was also an irregular discharge of pus from the vagina, which was always followed by relief of the symptoms. The urine was suppressed, one to three ounces only being passed during the day for several months. There was no albumen. After she had been in the hospital for six months, Drs. Longyear and McLean were called in consultation, and it was decided to make an exploratory incision, and find out, if possible, what the trouble was. The patient was always a heavy woman, with thick abdominal walls, and a large cavernous vagina. No pelvic abscess was found, and the ovaries and tubes were apparently normal. The uterus was rather small. Nothing whatever abnormal could be discovered, and the abdomen was closed. For four weeks after this the patient improved. Immediately after the operation the amount of urine increased to one ounce per hour, twenty ounces during the twenty-four hours, and the temperature did not rise above 100°. After four weeks the urine again gradually decreased to one to three ounces in the twenty-four hours, and there was intense pain over the left ovary. He (Dr. Tappey) is now

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using the faradic current, and stuffing the vagina with pledgets of wool, placing one behind the cervix. Immediately the uterus is raised, the patient says it stops the pain in the back.

As a cause of this condition, the patient (nurse) claims that in lifting her former charge, assisted by the latter's husband, the man did not lift, so that the weight came on the nurse, when she felt something give way inside.

Adjourned.

JAN. 3, 1889.

EXHIBITION OF SPECIMENS.

Dr. LONGYEAR showed a single placenta, with two cords, from a case of twin pregnancy. Children were born at term, were both males, and weighed seven pounds each.

Dr. CARSTERS exhibited the uterus from the case at the Woman's Hospital, reported by Dr. Longyear at the last meeting of the society. The patient lived fourteen days after the removal of the child. In the specimen, the upper portion of the vagina, cervix, and bladder were gangrenous and sloughing, but the body of the uterus was in good condition. Dr. Carsters also showed the aborted ovum from a woman who had menstruated the fourth day of October, 1888, had connection on the 28th of the month, and aborted on the 29th of November. The membranes were intact; the embryo showing the brain and optical vesicles, extremities, etc., well developed.

A second ovum exhibited by the doctor had been discharged six weeks after menstruation.

Dr. MANTON showed under two microscopes sections of the ovary exhibited by Dr. Tappey at a recent meeting of the society, and of an urethral caruncle, furnished him by Dr. Longyear.

In regard to this latter specimen, Dr. LONGYEAR said that he had removed the growth two months before with the Paquelin cautery, but that it had returned. At the last operation he removed the growth with the scissors, and then cauterized the bleeding surface.

Dr. MANTON also exhibited a new tissue forceps which he had devised for operations about the vulva and vagina. Nearly all of the existing



tissue forceps, including the well-known Thomas, are heavy and clumsy affairs. These forceps which he showed were light and small, yet had

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excellent grasping and holding qualities, and were readily manipulated by the left hand. The lock was so arranged that it could be easily closed by the thumb, without the awkward transfer of the instrument from one hand to the other for this purpose. The forceps were strong and durable, and were made by Mr. A. Kuhlman, of Detroit.

Written Communications.

Dr. Manton read a paper on "Skin Eruptions during the Climacteric: Urticaria." (See pages 257–259.

Discussion.

Dr. Cluttick said that he had had a patient last spring who manifested symptoms very much like those cited by the reader of the paper. An urticaria rash appeared suddenly, for which there was no assignable cause, — either from drugs, diet, or mental influence. The patient had suffered for some years, however, with ovarian neuralgia, and was of a nervous temperament. He had prescribed chloral hydrate and bromide. On the third day the patient suffered greatly, when he gave iodide of potassium and colchicum, with immediate relief of the symptoms.

Dr. Longyear remarked that he had never had a case of urticaria which he could attribute to the menopause, but had often seen such a condition resulting from uterine disease. A case which he was then treating for neuroses suffered terribly from the condition.

Adjourned.

W. P. MANTON,
Editor.

MASSACHUSETTS MEDICAL SOCIETY, SUFFOLK DISTRICT. SECTION FOR CLINICAL MEDICINE, PATHOLOGY, AND HYGIENE.

ALBERT N. BLODGETT, M.D., SECRETARY.

Dec. 12, 1888.

Dr. E. W. Cushing read a paper on "The Pathology and Diagnosis of so-called Pelvic Cellulitis, with Specimens of Pyosalpinx." (See pages 260–279.)

Dr. J. P. Reynolds: "What I have to say would be regarding pathological statements in the early part of the paper, and as that part of the paper was subordinate in importance and would not be of so much

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interest to the society as the more practical questions involved, I would ask not to speak at present, perhaps not at all."

Dr. M. ROSENWASSER said: "The valuable paper, accompanied as it is by the exhibition of so many specimens, requires no comment on my part. The contribution, the specimens, and the favorable results speak for themselves. They are evidences of good judgment, scientific management, and without doubt of the keenest solicitude. While it is intended to limit the scope of my remarks to reflections on chronic pelvic imflammatory troubles, intimately connected with the subject under discussion, I beg leave to digress for a moment to question the advisability of saving the right appendages in the case of suspected gonorrhœal salpingitis. The right tube and ovary were bound down by adhesions, requiring considerable force to separate and unfold them; they appeared otherwise healthy. The object in dropping them into the pelvis was to afford the young wife the only remaining chance for a future pregnancy. One would *a priori* expect the bruised and wilted tube, with its raw, thickened walls, to be again enveloped in exuded lymph, its abdominal end occluded, and the whole organ glued down to its old or some other neighbor in the pelvis. In due time, this tube, so disqualified for performing the function sentimentally reserved for it, will give rise to a series of symptoms of renewed disease which will render its removal as necessary as was that of its fellow. My ominous prediction is based on a paper by Lawson Tait in the May number of the 'American Journal of Obstetrics' for 1887, entitled, 'On the Results of Unilateral Removal of the Uterine Appendages.' In twenty-six unilateral appendages so saved, there was a return of the disease in more than half of the cases; only three subsequently became pregnant. These unpromising results followed, although the appendages remaining had seemed perfectly normal."

Dr. SINCLAIR: "I do not belong to the surgical section of those who treat disease of this kind. I have never operated, and consequently can say nothing at all in that direction. I have more or less acquaintance with the *medical* aspect of so-called pelvic cellulitis or peritonitis from the time when I was a student of Dr. Simpson, of Edinburgh, who first opened my eyes to this disorder, and I became deeply interested in it from the first. I think I was the first to describe a case of pelvic cellulitis, as such, in this city or State. The discussion on that occasion was very interesting. The late Dr. Jackson rather doubted the possibility of there being a sufficient amount of cellular tissue about the junction of the neck and the body of the womb with the broad ligament to have allowed such an amount of infiltration as was described in that case. Suffice it to say that we regarded it as abscess of the broad ligament. It was within ten

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days after confinement, and followed within about three weeks by a discharge of pus through the rectum. I think it was twenty-eight years ago. Since that time I have studied it as far as I could, both from touch and observation, but I have never had an opportunity of seeing the post-mortem examination of such a case except in one instance. Probably twenty cases or more came under my observation as physician to the City Hospital, but this one showed most clearly what had already been written and published by Bernutz in his famous work on pelvic peritonitis and uterine diseases. That case was one of tubercular disease of the Fallopian tube, and there were also, I think, some tubercles deposited in the interior of the uterus. At that time I became a convert to the Bernutz and Goupil theory, which was entirely contrary to the one received from Professor Simpson. It seemed a revelation — like being born again — to accept the theory that this condition of things was intra-peritoneal.

"In the Boston City Hospital Reports, vol. i., there is a record of some twenty-one cases of pelvic cellulitis, or 'peri-uterine inflammation,' inasmuch as I think that term would cover the ground in these obscure cases better than 'pelvic cellulitis.' The history and the termination would conform much to those cases read by Professor Rosenwasser. I have no doubt that the conclusion now reached by gentlemen at home and abroad,— surgeons and laparotomists, — that the best treatment of a large number of the cases has been discovered in the removal of the diseased organs, which are generally the ovary or the Fallopian tubes. There are certain cases, however, of true *pelvic cellulitis*, but those generally follow confinement and are septic in their nature.

"We have a mild form of pelvic peritonitis frequently met with in girls,— recurrences of sharp pain; they are 'laid up' for a day or two, and these recur and keep recurring, but very little attention is paid to them; still they may mean a great deal.

"The subject is immensely broad. I do not know of another in the whole domain of gynæcology that is wider and more interesting; and, as I said in an introductory note in my paper in the Hospital Reports, I believe that fifty per cent. of the disorders of women which we come in contact with are due to some kind of peritonitis, some localized pelvic peritonitic trouble. I know that at the time I was laughed at for such an assertion; but I think instead of fifty per cent., I should set it higher to-day."

Dr. S. C. WHITTIER, president of the New Hampshire State Medical Society, said: "I have been very greatly pleased with Dr. Cushing's paper and the explanation of the cases that he has given us. But one thing which I think should impress our minds more than perhaps almost

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any other is the getting away from, or losing sight of, the idea of pelvic cellulitis. I have come pretty thoroughly to the belief that we really get salpingitis instead; and I now should never examine a typical case of what we called 'pelvic cellulitis' without expecting to find salpingitis, and I don't think I should probably be mistaken.

"I have had quite an extensive opportunity, under the guidance of Dr. Cushing, of examining almost all of the patients from whom these specimens were removed, and have seen a great many of his operations, and I certainly have been very highly edified and instructed."

Dr. JOHN HOMANS: "I came here to listen to Dr. Price's and Dr. Cushing's papers, and did not intend to make any remarks. I can only say that I am much interested in this very large display of specimens of diseased tubes; and it brings the fact to the front again that we owe this to Mr. Tait, that he first called our attention to this condition of things.

"A few months ago I had a case much like some of these. The woman had been for seven years an invalid. She was the wife of a railroad engineer, unable to employ a servant. She was not able to do much, and had been a good many months in the hospitals. Life was not a burden to her, but still hardly worth living without being able to do anything. On examination, I found in the left iliac region a bunch about as large as a pear, and at the operation I had to go through the mesentery to make an opening into the sac, which I finally, after considerable difficulty, removed. It was the left ovary and tube. She had a drainage-tube inserted, and did very well. The other day, several months after the operation, she called to see me; she was able to work and enjoy herself.

"It seems to me that the treatment by laparotomy is the right one. The disease has been going on for some time in many cases, and it is pretty hard to keep a person waiting who is unable to do anything.

"Another case I operated on with considerable hesitation, because it was my first operation. It was one of those abscesses connected with the rectum, and I feared I should have a fæcal fistula. The uterus was displaced to the right and fixed, and when the abdomen was opened I found a tumor bulging out on the left side beneath the broad ligament, beneath the peritonæum, and with the intestines above it. I aspirated, enlarged the opening, put in a glass drainage-tube. The woman was better for the time being, but whether it was a permanent cure I do not know. No fæcal fistula followed.

"Of course all these improvements come from the enlarged practice in ovariotomy. As the operation was introduced by Sir Spencer Wells, and the familiarity of the abdomen obtained by ovariotomists, surgeons gradually became more confident, until a person of Mr. Tait's temperament and

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courage and decision came along and discovered this condition of the tubes and ovaries.

"I think Dr. Cushing is to be congratulated on the results of his efforts; it is a remarkable series of cases and a remarkable showing."

Dr. R. H. Fitz: "I have very little to say in this matter. The question, perhaps, that first occurs to me is this: What happens to these cases if not operated upon? Until the removal of acutely diseased tubes the patient was let alone and went under medical treatment; that has already been referred to. When the first of these tubes was brought to me, it was a surprise to me that in making post-mortem examinations it was a rare thing for any such condition to be seen; the inference being that if no operation was performed the fluid was gradually absorbed, the pus became absorbed, the tubes thickened, and one had in the person who got beyond the climacteric simply adhesions and thickened tubes. The amount of suffering which these women may have undergone while this process was being brought about was something that I had no idea of at the time; and it seems to me that this is the natural history of this class of cases; if the attacks are not so violent as to indicate a spreading peritonitis and demand immediate operation for the relief of that condition, they will generally, the majority of them, dry up, and adherent masses will remain, which evidently will give rise to very little disturbance. But it is very evident from the experience of Dr. Cushing, and familiar to other operators, that a great deal of suffering does arise until that result in the history of the process is brought about; and that the effects of these operations are very striking in relieving, as far as the present evidence goes, these serious disturbances.

"With regard to the more immediate subject before us, — the relation between these pelvic abscesses and tubal inflammation and cellulitis, so called, — there is no question that a pelvic cellulitis does occur and that it results in the formation of pus; but that it gives rise to any considerable tumors limited to the subperitoneal connective tissues seems to me not very likely. The course of pelvic inflammation is either forwards or backwards, and one has a long suppurating track instead of sharply defined circumscribed tumors that are represented by the tubal inflammations, and also by the cases of circumscribed peritonitis, which are so generally of tubal origin.

"I quite agree with Dr. Cushing that the great majority of these cases are not cases of abscess in the pelvic connective tissue, but are cases either of dilated inflamed tubes or of circumscribed peritonitis."

Dr. J. P. Reynolds: "That is a point which I wish to bring up a little. I do not differ, perhaps, at all from the statement of the general fact

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that a vast number of cases which have been considered to be the result of inflammatory processes in the peritonæum are really cases of these inflamed organs, or of the tube containing confined serum or pus. To that statement no criticism can be made; but I should not want to believe that anybody has seriously asserted that such collections of pus in occluded tubes were the result of inflamed areolar tissue. Septic inflammation in the lying-in period, for instance, ordinarily follows the track of the subareolar tissue; that is, where the investing membrane lies loosely attached to the uterus; but in the two lateral borders is a frequent seat of such inflammatory processes, less frequently on the anterior and posterior surfaces, because there the investing peritoneal membrane is extremely closely attached to the uterus. It is an old matter of anatomical statement that the areolar tissue extends over the peritonæum, over all the viscera, and inflammatory processes occurring in it are only very exceptionally limited and converted into circumscribed disease; but that ordinarily all the various degrees of inflammation, sometimes extending over a very large portion of the abdominal surface, occur, seems to me to be a fact not at all conflicting with the statement that a great many cases have been mistaken for inflammation of that tissue, and perhaps involving the peritonæum over it, when really they were inflammations, as I understand the writer of the paper to urge, of the subjacent organs and of their interior lining, resulting in the formation of masses of liquid. I do not say that it is necessary to imagine that old pathologists were so much in error when they stated that inflammation inside the Fallopian tube was the result of inflammation of the areolar tissue over it; but that there is such tissue capable of doing vast mischief, and does constantly in the lying-in period, seems to me to be a fact we must still admit. I don't think that it conflicts at all with the statement which underlies the history of these cases, that in the great majority of cases it is an internal inflammation occluding the tubes and resulting in hydrosalpinx or pyosalpinx."

Dr. F. L. BURT: "In many cases belonging to this class, the diagnosis is of considerable importance, although in some cases it may not be really so necessary; because if we are certain that an operation must be performed, we are equally certain of being able to clear up the whole matter at that time. As a point by way of an aid to diagnosis, I would say a few words which might be of interest in regard to the use of electricity in these cases. The benefit to be derived from this agent will depend upon whether there is or is not pus present as a result of the pelvic inflammation; that is, whether an abscess is present or not.

To illustrate this, I will briefly relate the facts concerning two typical cases: A woman of 45 years desired to enter the hospital, but she

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could not be admitted, as there seemed to be no operation indicated, yet she was sadly in need of treatment, as she was a complete wreck. Examination showed the results of an old pelvic inflammation, and the outline of the uterus could not be made out at all. The condition was one which would most usually be diagnosticated as fibroid, but there was no such tumor. I offered to treat the case at my office as a free patient. One application caused such an amount of absorption that I could easily outline the uterus after it, and with six applications there was such relief that she was able to resume work. The second case was diagnosticated as a fibroid, which had considerable pain and flowing associated. The removal of ovaries and tubes was considered. As a preliminary treatment I applied galvanism, positive intra-uterine. The result was to increase the pain, and not to stop the hæmorrhage in the least.

"Previous experience led me to doubt the diagnosis, and the operation revealed a double pyosalpinx. A private case, of which I show the specimens, well illustrates this latter type. A lady of 50 years had suffered during the past six years all the tortures resulting from a pelvic inflammation. There was treatment at the beginning for pelvic inflammation, and what was called a cure resulted. Quite recently she was told that she suffered simply from nervousness. She was referred to me by Dr. Manuel for treatment. I found it to be a typical case of pelvic inflammation, and the pelvic organs were joined in one solid mass, but the existence of pus was uncertain.

"I began with galvanism, but it did not help in any way, and the pains grew worse. The reason you will see, for a little later I did a laparotomy, and the result was the removal of the double pus tubes which I show you. The case has recovered perfectly. Another specimen which I will present is that of tubes and ovaries from a lady aged 38, who had a fibroid about the size of a twelve weeks' pregnancy. She had flowed constantly for three weeks, and was much reduced. Some might consider this a suitable case for electrical treatment, but I did not so judge it, from the fact that there was evident disease of the tubes, and the ovaries were displaced, adherent, and very tender. She had had supporters used for a considerable time, only to aggravate the trouble. I admitted her to my private hospital, and on the following day removed the tubes and ovaries. There was double hydrosalpinx, both ovaries were enlarged, cystic, displaced downwards and backwards, and adherent.

"Their removal was a necessity, both to relieve the pain and to cause the uterus to diminish in size. The recovery from the operation was extremely rapid, and she was up in fourteen days.

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"In regard to the cases whose specimens have been exhibited this evening, I would say that I have had personal knowledge of them all. It is a class of cases hard to diagnosticate and difficult to treat, and they usually have been through all kinds of treatment, without cure, sometimes without relief, it may be for years, before they come to the surgeon. The operation is not a necessity for life, but it is for a comfortable life, as all patients suffering in this way are invalided considerable of the time, and life is a constant burden to them. Because of this I would consider the operation as clearly indicated, and the results of this series show that everything expected has been realized."

Dr. CUSHING: "I have very little to say to close the discussion. I should like to bring out again the fact that in presenting all these cases,[1] and all coming in at once, I do not desire to imply that all such cases are to be rushed into this operation. These are old and neglected cases, most of them from out-of-the-way places where they couldn't get treatment. I had a case from Dr. Adams, of Framingham, — pelvis full and hard. I said: 'The woman has a home, can hire a girl; better use emollient applications, and wait.' In regard to getting fæcal fistula — of course there is some danger of that. In one of these cases pus was discharged from the rectum. On examining with the finger during the operation I found what I presumed to be adhesions and hardened tissue around the fæcal fistula. I did not disturb it, and she had no trouble from it.

"In regard to the matter of puerperal inflammatory affections, I think the profession is going through the same process of education at the hands of Mr. Tait as they did in the case of areolar tissue at the hands of Ruysch.

"I think in those cases in which Mr. Tait had the opportunity of operating within a few days, he found the tube enlarged, diseased, and evidence that the septic infection had not got into the lymphatics and run up in that way, as is generally supposed, inflaming the areolar tissue, but that there was septic endometritis; the tubes were enlarged, not occluded; pus runs out and sets the peritonæum on fire, — that is the way the case spreads. I saw M. Price operate in a case after abortion. The woman had puerperal fever. The tube was found as big as my wrist — big as a Bologna sausage. Out of that came this nasty foul pus, of which there were pockets in the pelvis. The case was perfectly clear, nothing about the areolar tissue. Pockets extended up to the kidneys. It was a neglected case.

[1] On December 12, eighteen cases were reported to the society, and the specimens exhibited; to these have been added the histories of eight other cases of salpingitis, as reported to the society at the meeting on March 13, 1889. These cases were operated on by Dr. Cushing between June 7, 1888, and Feb. 7, 1889, out of a total of forty-eight abdominal sections and six vaginal hysterectomies performed by him since June 7th last.

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"From the results of such operations, I think the profession will go through the same course in regard to puerperal cases as in regard to non-puerperal cases. Where there is an acute case of puerperal fever, somebody will take out the diseased tube, or, if necessary, the whole diseased uterus, and in that way save the woman, because the whole uterus may be a sloughing, diphtheritic bag of foul pus. That could be rinsed out from below, but nobody can rinse the tubes out. I think *the* operation for puerperal fever is going to be to remove the tubes, and sometimes the uterus with it, drain and wash out the pelvis, and a good many women will be saved."

Adjourned at 10.15 o'clock.

NOTES ON PROGRESS IN GYNÆCOLOGY.

H. P. NOTTAGE, M.D.

Apostoli's Method. — This treatment of uterine fibroids is passing through the period of trial and criticism that attends all advances in medicine and surgery. Some laud it to the skies, and others are ready to condemn it after one patient has received no benefit from it. Those who differ from us in their conclusions are neither knaves nor incompetent, and bitter words should find no place in the discussion of such an important discovery as this claims to be.

Dr. Deletang (de Nantes) has evidently done some commendable work in the employment of this method ("Nouvelles Archives d'Obstétrique et de Gynécologie," December, 1888). In the treatment of fibroids a current of 100 to 120 milliampères has been found to be sufficient. Each séance has an average duration of five minutes, repeated at intervals of from four to seven days. In fibro-cystic tumors, the current seems to have little effect, excepting in the case of little cysts which accompany large fibroids whose tendency to increase is not very great. Electrolysis seems to hasten the separation of pedunculated tumors. Hæmorrhage and pain cease, often before any perceptible diminution in the size of the tumor is noticed. The hæmorrhage may be increased at first, but after a short period it disappears. The pain disappears next in order, and seems to depend more on the inflammation about the tumor. The momentary aggravation of the symptoms at the beginning of the treatment seems to depend upon congestion of this inflammatory zone. Following this the fibroid retracts; but this effect is not constant, and is usually not attained until after the treatment has been in force for some time. Uterine colics

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for some hours after the treatment need cause no alarm. In general, the treatment should continue several months, but no precise rule can be given. Often the greater benefit is felt some time after the discontinuance of the treatment.

Action of Drugs on the Uterus. — At the meeting of the Academy of Medicine, in Ireland, Lombe Athill asserted that no ordinary medicines produce any effect on menstruation when taken during the flow, excepting the drastics. He doubts whether ergot, savin, quinine, or strychnine have any appreciable action on the muscular fibres of the uterus. Astringents are useless in menorrhagia and metrorrhagia, including tannin, gallic acid, the miner alacids, etc., in his opinion. Full doses of tincture of iron are useful, but only in anæmic women, while he relies on ergot alone.

Irritable Bladder. — In cases that have resisted treatment, dilatation of the meatus will sometimes allow a certain quantity of urine to escape after the bladder is supposed to have been emptied. There is a loss of tone in the muscular wall of the bladder, which tr. ferri chlor., with cantharides and nux vomica, will relieve.

The Medical Treatment of Fibroid Tumors of the Uterus. — Starchy and fatty foods promote the growth of fibroids. The diet should consist of lean meats, milk, eggs, green vegetables, and fruits containing little starch. Medicinally, ergot is of value. The "normal liquid ergot," employed subcutaneously, is unirritating, and promptly arrests hæmorrhage, even when profuse. Its continued internal use in 20 or 30 drop doses is more efficient in the control of the tumor growth than its hypodermic use. This may be alternated with a pill of ergotine, strychnine, quinine, salicylate, and arsenious acid. Conjointly with this should be given the fluid extract of hydrastis, fluid extract of phytolacca, and bicarbonate of sodium. Both hydrastis and phytolacca retard abnormal uterine action and promote absorption.

The therapeutic action of lactophosphate of lime and the hypophosphites of lime and soda is exceedingly favorable in these cases. The earliest perceptible effect is relief of hæmorrhage, followed, in some cases, by amenorrhœa. The second effect is arrest and absorption of the adventitious growth. Finally, their action is markedly restorative. — *Dr. Bedford Brown, in "Gaillard's Medical Journal," December, 1888.*

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HÆMORRHOIDS.

NOTES ON CASES AS OPERATED AT THE MURDOCK FREE SURGICAL HOSPITAL FOR WOMEN, BOSTON, U.S.A.

Service of Dr. E. W. Cushing, reported by F. L. Burt, M.D.

It is the object, so far as possible, in these monthly reports to bring before the reader brief notes on the different classes of cases considered, with an effort to show the exact condition before operating, the method of performing the operation, and, so far as may be, the future history of the patient. The latter is of a great deal more practical importance to physician or patient than the method employed, and doubtless the general practitioner is better pleased and can really get more practical good from brief records than from the elaborate articles in which he may take no interest or which he may have no time to study out.

Case I. — Mrs. B., aged 44, has four children. No history of any difficulty with the labors, but of late there is disordered menstruation, the periods being irregular, too frequent, the duration too long, the flow unduly copious and attended with considerable pain. The bowels are irregular, operating twice a week, each time requiring assistance, severe pain and considerable hæmorrhage attending each movement. The patient entered the hospital for relief surgically, examination showing external and internal hæmorrhoids extending about one and one-half inches from the anus, and very sensitive to touch, bleeding on the slightest manipulation. Operation was advised and done after the method to be described.

Case II.—Miss M., aged 33, presented herself at this hospital for an operation for the cure of hæmorrhoids. The brief history given is as follows: She entered the hospital in January, 1889, and stated that she was not suffering at present, but had done so in the past, both from pain and hæmorrhage, and expected the same in the future. She desired operation now, as being the most convenient time for giving up her work.

Examination showed large hæmorrhoids, causing sufficient trouble to necessitate surgery, and the operation was performed, as below.

There have been at this hospital quite a large number of cases in which the diagnosis of hæmorrhoids could have been made, and doubtless would have been treated as such by many physicians. They have not been treated here, because they were dependent upon some other condition as a cause, which being relieved, the piles disappeared, or else they were associated with some more serious affection, for the relief of which alone the patient applied.

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Altogether, there are thirty-nine cases recorded as having received one or another of the various methods of operative surgery. It is not necessary to describe all the different methods which have been employed in these cases with more or less success, but only to give the details of a method which has proven highly satisfactory and successful.

The method by injection, which is highly recommended by some physicians, has not been employed in any case. There is no doubt that it works admirably, sometimes at least; and if so, cannot be otherwise than satisfactory. It is thought, however, to be far more suitable in private cases for those who refuse the knife, or for those where the disease is not serious enough to require an operation.

The use of the cautery has not been favorably considered. As is well known, the use of this agent causes a destruction of tissues more or less extensive, according to the amount of heat used, or the extent of the application. Following this there is more or less pain and swelling (sometimes very serious), and a contracting cicatrix results, which is more or less extensive, according to the depth and surface of the slough.

This method has been employed but once, this being in case of an external pile, with very small pedicle. Besides removing this, a small, irritated-looking patch was also touched. The amount of pain and swelling was all out of proportion to the amount of work done; and since this is considered to be more or less the usual condition following this proceeding, the methods which have been introduced into this hospital and used here almost altogether are now recommended as the best method for the satisfaction of the physician, the comfort of the patient, and the ultimate effect upon the symptoms.

The first of the two methods is described briefly as follows: —

Patient being in the lithotomy position, the sphincter is dilated more or less, according to the condition of the case. The different masses are seized by a clamp (any kind being used by which they can be brought out and held well in view), and a suture introduced which passes around the sphincter as one suture, or else made in two or three sections. The shoemaker-stitch is used altogether, and with the animal suture. The piles are then removed as nearly to the suture as convenient without cutting it. The two edges of mucous membrane thus cut around are next approximated with a continuous suture of fine catgut. By the use of this method there is scarcely any hæmorrhage, and the results with it thus far have been highly satisfactory.

The latest method employed has been in two cases (those of which there is a brief description above), and is essentially a modification of the method known as the Whitehead operation. The sphincter is well

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dilated and the whole diseased surface well drawn down. The mucous membrane is then separated from the skin all around the verge of the anus, and with the finger-nail and blunt scissors it is dissected up, laying bare the fibres of the sphincter ani.

This process is continued until the whole of the diseased mucous membrane carrying with it the hæmorrhoids is dissected off and protrudes from the anus as a tube. In the Whitehead operation this is then fastened to the edge of the skin around the anus, by interrupted sutures of silk, after cutting away the part containing the hæmorrhoids.

Instead of interrupted silk sutures the continuous catgut suture has here been used very conveniently, as follows: In order to prevent retraction and to control possible hæmorrhage four sutures are introduced, in such a way that each includes one-quarter of the whole circumference. Gut or silk can be used; gut, of course, if they are not to be removed. These are tied loosely, or left untied as desired, and are to be drawn up, if there should be any bleeding, for a short period, otherwise they may be removed in twenty-four hours.

The gut being conveniently prevented from retracting by these temporary sutures, the disease portion is cut away, a little at a time, and following each cut the upper and lower edges of the mucous membrane are then approximated with gut of rather small size. Any hæmorrhage is easily controlled by the temporary sutures, and by the approximation of the raw surfaces.

As a result, in these cases, there has been no undue pain or swelling, and the healing has been very satisfactory. There has been no sloughing, since a sublimate irrigation is used constantly, and the sutures used are perfectly aseptic. Closed tightly in this manner, no external septic matter can gain entrance. There has been no foul slough to deal with, and the necessary after-treatment has been almost *nil*.

The catgut used is that previously described, and for the method of preparation the reader is referred to the article in the ANNALS of September, 1888.

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Anasarcous Fœtus, and Placenta. Case of Daniel Longaker, M.D.

(See pages 324, 325.)

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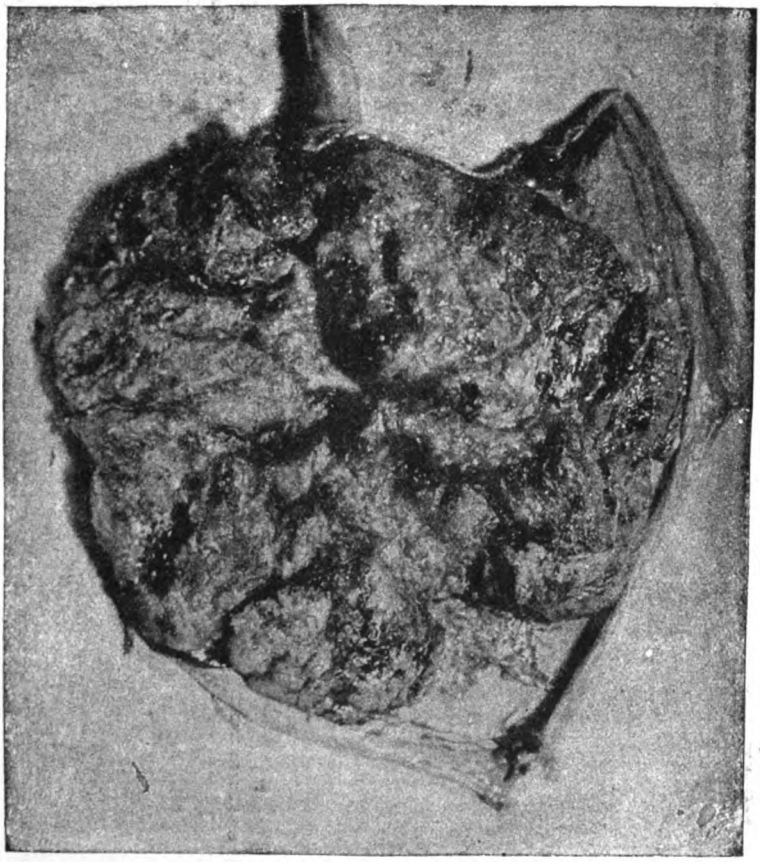


Placenta from case of Anasarcous Fœtus.

Fœtal Surface.

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Placenta from case of Anasarcous Fœtus.

Maternal Surface.

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A— Hæmatoma of Right Ovary. **B**— Abscess of Left Ovary.
Case of R. H. Murray, M.D.
(See pages 326–329.)

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ANNALS

OF

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ORIGINAL COMMUNICATIONS.

ANNUAL ADDRESS OF THE PRESIDENT OF THE PHILADELPHIA OBSTETRICAL SOCIETY.[1]

BY PROF. THEOPHILUS PARVIN, M.D.

GENTLEMEN, — Few honors are possible to the American obstetrician which equal, fewer still which exceed, the Presidency of the Philadelphia Obstetrical Society. The very name "Philadelphia" is one of power and praise in the history of obstetrics, for in this city rather than in any other of our country there lived those who were most eminent as writers and teachers in this department of medicine, and who were chiefly quoted two or three generations back as its chief American representatives. Some illustrious members of the profession, a few departed, others abiding, who, by useful and honorable work, advanced obstetric science and art, have occupied this chair. Some of the monographs presented to this Society contain treasures of research or observation which every student consults, and are professional classics. Reports of cases here made, and discussions here had, have, by the ever multiplying and everywhere scattered pages of the medical press, become the common property, the valuable and valued possession, of educated doctors the world over.

Thus recognizing the honor done me, my tongue would not be true to my heart did it not utter words of thanks to those conferring it, though

[1] Delivered at the meeting on March 7, 1889.

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words can but feebly echo the deep gratitude felt. Let me now also record my hearty appreciation of the magnanimous course of him who moved, and of those who supported the motion, that the choice be made unanimous. Heaven graciously grant that none ever repent this action. Pericles, when dying, said the greatest and most excellent thing of his life was, that no Athenian ever through his means wore mourning. In like manner may it be my happiness to say, upon retiring from this chair, that no member of the Society ever had just cause to mourn any injustice or discourtesy from me.

Having been a medical teacher for about a quarter of a century, and during much of this time actively engaged as a medical journalist, permit me, in a part of the address which custom demands for the occasion, to say a few words chiefly suggested by this experience.

One who constantly refers to, or even occasionally consults, medical periodicals, is not unseldom annoyed or sorely hindered by the failure of writers to give clear and appropriate titles to their work. Though attention was vigorously called some years ago by our countryman most familiar with medical literature — Dr. J. S. Billings — to this matter, the desired and needed reform has not been made. Medical societies still occasionally hear, and medical journals still report, "singular," "remarkable," "unusual," "extraordinary," "wonderful," "unique," et cetera, "cases." A man would hardly call the child sprung from his loins "Nothing" or "Anything," "Nobody" or "Anybody," but he sends out to the professional world the Minerva child of his brain bearing an utterly meaningless name. The professional knowledge offered us ought to be properly labelled quite as much as drugs exposed for sale, and correctly named, just as is the food on a bill of fare.

Another evil in this literature is haste in the reporting of cases. Not only in our obstetrical society, but quite as much in other societies, there are occasional instances of *partus prematurus* and of *partus immaturus*, but even of abortion. If I do not forget my reading, in Horace's "Art of Poetry" the poet is advised to keep his production nine years before making it public. Peradventure a pregnancy of nine months would be, in some instances, advisable in order to secure the viability of certain cases, for in that time their history would be completed, and the lessons they taught be clear. When one walks upon the sea-shore in the early dawn he finds here and there jelly-like masses which the receding waves have left; but after the sun has been up a few hours, and its fierce rays have beaten upon those masses, they shrink, they shrivel, they vanish, scarcely leaving a trace upon the white, dry sand. And thus it may happen in like manner with cases taken untimely from the womb; they

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become lifeless and little when the clear, warm light of truth and experience shines upon them. A true fact is most valuable, but a half-fact is of trivial value in the temple of medicine; we all need, too, to remember the words of Cullen, that false facts are more numerous than false theories.

Of the very few in the medical profession who knowingly falsify facts, who bring forward untrue statistics, striving to exalt themselves upon a rotten pedestal, claiming a vast number of cases which thoughtful men will not believe they ever had, it may be said that they have had their day; those who do not know them, or who do not investigate the probabilities of truth, accept their facts, and are misled; but there is always a saving remnant among doctors, as well as in society, who are not betrayed into a false faith.

No error of reasoning is more common among men, medical writers included, than drawing a conclusion from incomplete or insufficient data. A doctor, for example, has two or three cases in which such a pathological condition existed, or was believed to exist, and the cure was effected by certain means; therefore in all cases of the disorder that condition must be present, and all can be cured by the same therapeutic means. Hence the most positive opinions and downright dogmatisms are given the profession as knowledge. And indeed there are those who find their best and most acceptable diet in such peptonized food. It saves them all intellectual digestion, — that is, the trouble of thinking; and they become so fascinated with positive and dogmatic teaching, that they even cry out against those who are not dogmatic. It might be a good thing if in every medical college medical logic were a part of the regular course of instruction

An evil sometimes done the profession is the constant publication of successful cases and the omission of failures.

"How I found Livingstone" is intensely interesting, but I have sometimes wondered whether a volume entitled "How I did not find Livingstone" would not be equally interesting, and even more useful to the African explorer. Macaulay probably deserves to be ranked with Pythagoras, Samuel Johnson, and Coleridge, as among the most marvellous and instructive talkers the world has ever known; and yet it has been said of his so-called conversation, more monologue than conjoint speech, that it would have been more interesting if it had been interrupted by an occasional brilliant flash of silence. The report of a series of successes would have greater value if interrupted by an occasional failure; to the individual, a failure is often more valuable than a success, and the instructive lesson ought not to be denied the profession.

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The last remark leads me to a few observations upon the objects had in view in medical writing, — the motives determining authorship. Very many write because they are paid for their work, and often this work is entirely congenial. Frequently their names are not attached to these contributions, so that no additional compensation comes through reputation acquired by writing. Certainly some of the best of the writing done in our medical periodicals is solely inspired by pecuniary reward, just as some valuable work in general literature has been the product of the same motive; Walter Scott's pecuniary liabilities gave us the Waverley novels, and Johnson wrote "Rasselas" to pay the funeral expenses of his mother.

Some men write from an honest love of fame, or this great gift denied, — since it is granted to only few among the few, — at least they will strive for temporary notoriety. Let no one despise "that last infirmity of noble mind" as a motive, or seek to repress the honest efforts made from its influence. But he who feels this inspiration must not only be content

"To scorn delights and live laborious days,"

but also be sure he finds something valuable to say to the profession, and says it in the best possible manner; that is, in the fewest and plainest words, for Pharisees only thought they would be heard for their much speaking. The ground that occasionally lies fallow gives richer harvests than if its fertility is exhausted by constant production.

In "Haifa, or Life in Modern Palestine," the author, Laurence Oliphant, speaking of that man, among the bravest and noblest of the century, or of all centuries, — General Gordon, — remarks, "His modesty was such that I could only compel him to narrate his own adventures by a process of severe cross-examination." Some doctors are equally reticent as to the clever things they have done, and it is only by searching inquiry that you can secure from them facts of value to the profession; while occasionally you meet with one who does not wait any cross-examination, severe or mild, but is perpetually telling of his "last case," until, in your weariness, you almost wish it were his "last" one.

No man ever yet, even though he had the strength of Hercules, lifted himself "to dwell in the blue serene of fame" by tugging at his boot-straps; a man by self-inflation may increase his superficial dimensions, but not his intrinsic weight. Or, making more delicate comparison, and borrowing from Coleridge, "He that will fly without wings must fly in his dreams; and, till he awakes, he will not find out that to fly in a dream is but to dream of flying."

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Some doctors write, hoping, it may be, that while their words will be useful to the profession, hoping still more that they will bring them patients, they cast bread upon the waters, expecting to find it before many days. Writing for practice is certainly very often done, and by some ably done; the motive of this work may be patent, or latent, but the writer often secures his reward. The special temptation to one who thus writes is to unduly exalt himself, and ignore or depreciate other workers equally able and distinguished; a capital[1] I is almost as frequent upon a page as the many quills of the fretful porcupine; such work is liable to be imperfect, incomplete, and lacking in catholic character, and it occupies possibly an honorable place, but it does not abide among the best literary treasures of the profession.

One cannot readily suppose that Hippocrates, Boerhaave, Hufeland, Harvey, Watson, or, coming to our own city, Dewees, Hodge, Wood, Meigs, or Parry,

> "Tongues of our dead not lost,
> But speaking from death's frost
> Like tongues of fire at Pentecost,"

wrote for the purpose of securing clients. Listen, I pray you, for a moment to the words of one of the noblest of English physicians, Sydenham, and see if they do not waken prompt response in your hearts, so that "ancient founts of inspiration well through all" our "being yet."

In writing to a friend who has commended one of his "Treatises," this exemplary man said: "And indeed I have so seldom received anything of this nature, that either I have merited no such thing, or else these candid and ingenuous men, whom nature has framed with such excellency of mind as to know how to be grateful, are very few, — scarce so many as the gates of Thebes or the entries of wealthy Nile. Yet, notwithstanding, I endeavor all I can, and will do so, to learn and promote the method of curing diseases, and to instruct those that are less conversant in practice than myself — if any such there are — let other people think of me as they please. For, having nicely weighed whether it is better to be beneficial to men or to be praised by them, I find the first preponderates, and much conduces to the tranquillity of the mind. But as for fame and popular applause, they are lighter than a feather or a bubble, and more vain than the shadow of a dream. But if any one thinks

[1] There appeared in one of our medical journals, not long since, a contribution of thirteen sentences, and "I" occurred ten times, though there was not an original thought or suggestion in the article. If men must be vain, would it not be well were their egotism at least occasionally hidden behind the decent drapery of altruistic speech?

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that riches got by such a reputation have something more of solidity in them, let them enjoy what they have scraped together with all my heart; but let them remember that some mechanics of the most sordid trades get and leave more to their children; yet they do not exceed the beasts in this, who take as much care as they can of them and theirs; and if we except things honest proceeding from the judgment of the mind and virtue, whereof the nature of beasts is not capable, the beasts are plainly as good as these and all others who do not endeavor to do all the good they can in their generation."

Thus the endeavor to do all the good we can in our generation is the high aim of the best professional work.

The great prominence given in this Society for some time past to surgical gynæcology, to the relative neglect of medical gynæcology and obstetrics, has been matter of public and private criticism, if not sometimes even of complaint. I confess to having fully sympathized in these opinions. And yet careful reflection has led me to doubt the justice of any explicit or implied censure, for a retrospect of the marvellous progress in abdominal surgery during those recent years, especially as it relates to pelvic inflammation in the female, has compelled the conclusion that these things must needs have been as they were. Let us go back forty-one years to the beginning of the work of Bernutz, who was the herald of our clearer day. In 1848 this laborious investigator published a series of papers upon[1] "The Accidents caused by Retention of the Menstrual Flux;" in 1861 and 1862, these papers, with others dealing especially with inflammation of the pelvic peritonæum, were issued in two[2] volumes, which included more than thirteen hundred pages. In 1867 a much abridged translation of the work was published by the Sydenham Society. Now the great value of Bernutz's many years' laborious investigations was, not merely or mainly that he swept away the hitherto generally received pathology of the most frequent form of pelvic inflammation in woman, proving that in the vast majority of cases this inflammation involved the serous, and not the connective, tissue, but that this peritoneal disease usually originated from disease of the uterine appendages.

As I re-read in the preface to these volumes the words of Bernutz, stating that he had laid aside every other sentiment save the desire to be useful to the sick, and that this was the sole motive for writing the book, I do not wonder at his having accomplished so much in opening the way for one of the most important advances in surgical gynæcology; for the

[1] Arch. gen.
[2] Clin. med., sur les maladies des femmes.

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best success is the reward of the highest motive. Again: was there not something almost prophetic in the second of the following sentences also found in this preface? "It may be understood from what precedes, that, notwithstanding the labor in the preparation of this work, we acknowledge its many deficiencies and also many imperfections. We have even thought it might be of only a transitory character, — a point of departure for other works."

The affection of the uterine appendages, which Bernutz sometimes called the orchitis of women, possibly thus pushing an analogy too far, had in nearly one-half of the cases a puerperal origin; that is, occurred after labor or miscarriage. Then in more than one-half of the remaining cases the disease was gonorrhœal; and, to add to the force of the last statement, and to show that operators who so frequently find pus collections in the tubes have a probability in favor of their view, let us remember that nearly one-third of the women suffering from gonorrhœa, under Bernutz's observation, had inflammation of the pelvic peritonæum.

More than twenty years ago I reviewed this work in the "American Journal of the Medical Sciences," and one of the pleasant reminiscences, now saddened by the death of Bernutz, was a letter from him thanking me for the review.

How those of us, years ago casting aside the cellulitis which occupied so important a place in text-books and in clinical teaching, accepted the new doctrine, but sadly found that change of name did not add to our therapeutic resources! We tried to work out at the bedside the problem of treatment, the method of cure, and our experience often reminded us of the wise master's words when he said, "We have described the recrudescences which occur in *pelvi-peritonites*, because these recrudescences are so frequent that they constitute an almost essential character of the affection." We plied our leeches, our opium, and our blisters, as taught by Bernutz; the majority of patients recovered, some, though, became chronic invalids, and others died. What new light could come? It was reserved for Lawson Tait, one who is an image-breaker rather than an image-worshipper, possessing a mind remarkably practical, and a delicacy and intelligence of touch that are marvellous, standing to-day the foremost of abdominal surgeons, to put in practice a creed that might be thus formulated: If the uterine appendages are so diseased that cure is impossible, and their condition is the cause of recurrent attacks of pelvic inflammation, these recrudescences upon which Bernutz so earnestly dwelt, — inflammation which produces great suffering, hinders useful living, and may end fatally, — remove those appendages. In 1873, Mr. Tait first performed the operation to which his name has been given by

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some, but which is more appropriately known as the removal of the uterine appendages. Less than sixteen years have passed, and the operation, while slowly meeting professional recognition, has not yet been fully appreciated in regard to its imperative necessity in certain cases. Many a woman drags out a wretched existence or prematurely perishes because the recognition of diseased uterine appendages is not made, and of course they are not removed.

It is so easy on *a priori* grounds to criticise or to condemn this operation. It may be called mutilation, sterilizing, unsexing. One might repeat the words of Plutarch, "For to use the knife, unless in the extremest necessity, is neither good surgery nor wise policy, but in both cases mere unfeelingness; and, in the latter, unjust as well as unfeeling." But facts are stubborn, and if they are many enough and strong enough will vanquish *a priori* reasoning and prejudice. These facts needed to be accumulated in order that the profession should know that Mr. Tait and his followers were right; there was a necessity for what poor Hood called the piscatorial precept, "line upon line." While some operators in this city — I wish I could mention all their names in the order of their work — preceded Dr. Joseph Price, by far the greater number of the so-called Tait operations have been done by him, and by those whom he assisted or instructed. The slight mortality his statistics show, and the happy results in those recovering, present an unanswerable argument. So, apparently, there was need that blind eyes should be brought to see and deaf ears to hear, and thus case after case presented to the Society, and to the far larger number of physicians who know the organization only through its published transactions.

Something, too, must be allowed for the zeal of discipleship. Something, too, for the fascination which a new and important therapeutic means excites. Guizot once said that when a man is profoundly impressed with an idea, he becomes a missionary of that idea.

Thus concluding this topic, I cannot think that too much importance has been given in the Society to gynæcological surgery. But is the future to be but a reflex of the past? Has not the time come when obstetric subjects should be given greater prominence? At least partial answer shall be made in the next and final topic presented in this address.

The story is told that once a man, when asked to give a definition of walking, made no reply in words, but rose from his seat and walked. Permit me, therefore, without argument for the importance of having obstetrical papers more frequently presented to the Society, now to present such a paper as an appendix or addition to this address.

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REPORT OF A FATAL CASE OF PUERPERAL ECLAMPSIA.

Let me premise that I am indebted to Dr. J. L. Rothrock, the resident physician in charge of the patient, for the report of the case,— a report which will be presented in a condensed form, — and also to him for some statistics of eclampsia occurring in the Philadelphia Hospital, and to Dr. Eshner for the record of the autopsy, which was made under the direction of Dr. William Osler.

O. K., unmarried, primipara, 17 years of age, was received in the maternity on the 5th of January, 1889. At 9 P.M., soon after her admission, had a convulsion. An examination of the urine showed that it was highly albuminous, and contained some granular casts. By vaginal examination, the os was found sufficiently dilated to admit two fingers, and the pelvis roomy; the presenting part was believed to be the vertex, but the head was so high that it was impossible to make a positive diagnosis. Coma followed the convulsion, and lasted nearly half an hour, when partial recovery of intelligence occurred. At the end of the half-hour a second convulsion occurred, and a third fifty minutes after the second. She was then given thirty grains of chloral by the rectum, and one-fourth of a grain of morphia hypodermically. Three more convulsions occurred before 2 A.M., when Dr. Parvin saw her; she had previously a second hypodermic of morphia. Forty grains of chloral were given by the rectum, and chloroform by inhalation. The os was found as large as a silver dollar, the uterine contractions regular, and artificial dilatation of the os was employed with a very satisfactory result, complete expansion being accomplished in half an hour. No convulsion occurred during the dilatation. The membranes were ruptured, and the head descended into the pelvic cavity. At 3 A.M., the seventh convulsion occurred, but it was less severe than some that preceded it, and the labor ended spontaneously at 6 A.M., the child born partially asphyxiated, and with difficulty resuscitated. In twenty minutes after the birth of the child the eighth convulsion occurred, and during it the placenta was expelled. After this the patient had a tranquil sleep, and seemed better. But in little more than an hour there was another convulsion, and this was followed by a second and a third, the intervals being only fifteen minutes, and one of the attacks lasting five minutes. In three hours another convulsion, and still another nearly three hours after that, and it was the last. There were thus in all thirteen distinct convulsive seizures, while several apparently were averted by the timely use of chloroform. The patient died on the morning of the 7th, about thirty-five hours after the first convulsion. The temperature was taken repeatedly, and was never high, only once reach-

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ing 102°; it was generally found less than 101°. An hour after death the temperature was 98.8° F.

In regard to the obstetric management of the case, it may be asked if the forceps ought not to have been used as soon as the os was well dilated. The labor pains were active and efficient; it seemed to me that it would be a needless violence to drag the child's head rapidly through an unprepared birth-canal in a primigravida; and only one convulsion occurred during the second stage of labor. Moreover, confiding too much in the testimony of the thermometer, I was quite hopeful as to the patient's recovery. How satisfactory it would be if, by frequent thermometric observations in eclampsia, we could know the patient's true condition, when peril comes, and when it disappears, just as the sailor safely guides his vessel over a bar by frequent soundings. Bourneville asserted that if eclampsia was to prove fatal, the temperature was progressively elevated, reaching a high degree; but the record in this case proves that the assertion was too absolute. So, too, the observation of the temperature, in this case taken after death, does not confirm the statement of Hypolitte as to its great increase.

It is probable that, as Schröder claims to have first pointed out, the condition of the pulse in the eclamptic is of the greatest significance in forming a prognosis. My experience in this case will lead me to attach less importance to the temperature than I have heretofore.

Body of a well-built, well-developed young girl. No œdema. Face suffused. Skin of scalp much infiltrated with blood. Skull-cap thin; diploe extremely vascular. Dura dark red in color; pial veins showed through it with great distinctness. Large clot in longitudinal sinus. Vessels of pia, large and small, deeply congested, down to the smallest venules. On section, gray matter unusually red in color; white matter highly vascular; venous points numerous and large. No special regions of anæmia. The congestion seemed quite uniform. The basal ganglia were normal. Ventricles showed no change. Ependymal veins unusually prominent. Structures at base normal. On careful examination of all parts nothing was discovered but intense congestion.

Thorax. — Extensive adhesions on right side. Pericardium smooth; cavity contained three or four ounces of fluid. Right and left auricle contained dark, grumous blood; ventricles empty and contracted. Weight of organ, after removal of blood, thirteen ounces. Valves normal. Walls of left ventricle distinctly hypertrophied, measuring in places three-quarters of an inch; the chamber itself not enlarged. On microscopic examination the muscular tissue showed marked fatty degeneration. Aorta normal.

Lungs. — Right lung crepitant throughout; contained a good deal of blood and serum in dependent portions. No consolidation. Left lung: apex and superior two-thirds presented extensive pneumonic consolidation. At upper and anterior

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part of lobe, the consolidation was uniform, reddish in color, and looked like ordinary pneumonia, but in the remaining portion of the lung the affection was limited to small areas of grayish-white appearance, surrounded by areas of deep congestion. The lower lobe of this lung was unaffected. The condition was a typical one of catarrhal pneumonia. At the lower part of the lobe were one or two spots which looked quite softened and were suspiciously like puriform softening. The pleura covering the inflamed region had a thin sheeting of fibrin. The bronchial glands were a little enlarged.

Abdomen. — Spleen not enlarged.

Stomach and intestines showed no change.

The kidneys weighed together ten ounces. The capsules detached readily, leaving a mottled surface, with the stellate veins unusually distinct. On section, there was marked contrast between the cortex and the pyramids. The former was pale and the medullary rays looked swollen. The vascular lines, in places, did not show. There were no signs of fatty degeneration. The organ appeared to be in a state of acute nephritis, passing into the second stage.

A. A. ESHNER.

The only remark upon the autopsy now made is that it furnished no support to the theory of eclampsia in its essential character, which the late Angus MacDonald presented in 1878. After describing the post-mortem results in a case of eclampsia, he remarked: "The essential element, therefore, in the pathology of this case would seem to be reduced to a condition of over-action of the vaso-motor centre, from the stimulating effect upon it of a blood rendered impure through the retention of the collective excrementitious matters which the kidneys ought to have removed. By this over-stimulation there would be produced a high degree of anæmia of the deeper cerebral regions and central portions of the cord, and coincidently a collection of blood in the venous sinuses within the cranium and the spinal cavity, and in the meninges. This result of defective blood-supply would be, at the same time, aided by the peculiar conditions of the venous and blood-vascular systems conditioned by the pregnancy." Dr. Osler very carefully examined, at my request, and found no evidence of this anæmia of the deeper cerebral regions.

Dr. Shakspeare was kind enough to make an inoculation of a rabbit from the medulla and spinal cord, but the result was negative.

Statistics of Eclampsia at the Philadelphia Hospital. — In 15 years, from 1874 to 1889, 2,655 women were delivered in the Hospital, and 9 had eclampsia, or 1 in 295. Of those attacked 3 died; the mortality, therefore, being 33⅓ per cent. In 2 of the 9 eclampsia began before labor, but in the ninth month of pregnancy. Eclampsia occurred in 2 after labor, in 1 four, and in the other about 24 hours after. Of the remaining 5, 2 were attacked during the first, and 1 in the second stage of

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labor; in 2 cases no statement is found as to the time of the attack. The 2 who had eclampsia after labor recovered, the attack being mild; 1 of the 2 in whom the convulsions began before labor died, the other recovered; 2 in whom the convulsions first appeared during labor died. In only 4 of the 9 is there any statement as to albumen being found in the urine, no examination having been recorded as to the others. The patients were all young primiparæ, the oldest being 22 years old.

In the treatment, most reliance seems to have been placed in chloral, morphia, and chloroform inhalation. One patient was bled, but death occurred. In two cases labor was hastened by artificial dilatation, and followed in one by podalic version and delivery, but both patients died.

Let me now add a few words as to the etiology and treatment of puerperal eclampsia. One of the earliest explanations of this disorder I find given by Horn,[1] a teacher and practitioner of obstetrics, in 1765. The disease, he states, is almost entirely restricted to primiparæ because of the rigidity of the parts through which the child must pass, and the powerful abdominal contractions. When the child is forced into the pelvis the uterine nerves are strongly pressed upon, and this pressure is increased by the affluent blood in the arteries; the nerves are so severely compressed that the nervous fluid is driven out of them into adjoining nerves supplying muscles, and hence these muscles are thrown into disorder, and convulsions occur.

Passing from this as one of the curious decayed faiths, we find the way down to the present strewn with once accepted, now rejected, hypotheses. It does not require a long stretch of memory to recall the time when cerebral congestion was the generally admitted explanation of the convulsive seizure; the belief died, but an important part of the therapeutics founded upon it receives more or less acceptance at the present. Blood-poisoning by urea as the cause had its day; that is to say, the convulsions were uræmic. It is no longer an accepted hypothesis, though the term applied to the seizures is still frequently used. Traube, Munk, and Rosenstein held that, in consequence of the hydræmia of pregnant women, when uterine contractions occurred œdema of the brain resulted, which by pressure caused anæmia, and then convulsions and coma followed. Winckel states that he accepted this hypothesis until his experience in the last four years in Munich proved to him that it was erroneous. Many eclamptic women are not markedly hydræmic, and eclampsia has repeatedly occurred in pregnancy, and without the provocation of labor-pains.

Deranged renal secretion, both in character and scantiness, being so

[1] His work upon obstetrics was published at Stockholm and Leipsic.

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common, but not a constant phenomenon of eclampsia, led Halbertsma to attribute the affection of the kidneys to pressure of the gravid uterus upon the ureters. Ludwig had shown that the secretory tension of the kidneys was not great, so that slight pressure upon the ureters suspends the flow. Leyden, in examining the kidneys of women dead from eclampsia, did not find the lesions characteristic of venous stasis, but a simple fatty degeneration of the epithelium. So far the view of Halbertsma was sustained, but the answer will be given in a moment.

Peter, 1865, believed that the poison in the blood producing eclampsia was not a single element, but the various extractive matters which are retained with the urea. The eclamptic is urinæmic. It is because there is an accumulation of all the elements of urine in the blood that she is attacked by the final accidents known under the name of eclampsia. Subsequently, I believe, though I am not positive as to dates, Nothnagel, Strumpell, and Von Jaksch stated that not only urea, but the fixed salts of the urine, retained in the blood caused eclampsia. The urates, etc., of potassium, sodium, and the chloride said in irritating the brain. Fleischer, of Erlangen, believed it was the extractive matter that was contained in the urine which caused the evil; and, further, he was more convinced of this by experiments upon animals.

Winckel, referring to Halbertsma's hypothesis, states that from autopsies made of women dead in pregnancy, and who had not had any indication of eclampsia, he found the ureters had been greatly stretched. He adds: "The conclusion was drawn, no doubt, in many cases from an erroneous hypothesis; to wit, that the renal affection and the scanty secretion were the primary cause, the other symptoms but the consequences, losing sight of the fact that women without albuminuria may have eclampsia, and not considering the possibility that the disease of the kidney may be the consequence of an already present poisoning, just as the convulsions and the coma and as acute yellow atrophy happens with phosphorus, and arsenical poisoning, as proved by Stumpf in two cases in our clinic of eclamptic poisoning." Winckel gives the credit to Hattleher of suggesting that the poisoning was from a substance similar to the ptomaines, formed in the living body by decomposition. It should be remembered, too, that Doléris and Butte have found toxic ptomaines in the blood of the eclamptic, while Delore has attributed the disease to microbes. Neither of these hypotheses is so well based upon observations that it can be accepted.

Professor Stumpf's investigations are of great interest. He found invariably acetone in the urine of the eclamptic when the breath very distinctly gave the odor of acetone; and in consideration of the part which, accord-

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ing to recent researches, this and similar bodies play in diabetic coma. he looked for sugar in the urine, and found it in all the cases in which a sufficient quantity could be obtained for testing. Hence he came to the conclusion that by an abnormal process of decomposition, a toxic substance, free from nitrogen, — possibly acetone or a similar body with the same reaction, — might by its elimination through the kidneys so irritate as to cause nephritis, effect in the blood destruction of the red globules, greatly change the activity of the liver cells, cause the formation of sugar, the breaking down of the liver-parenchyma to complete yellow atrophy, with the production of tyrosin and leucin, and through the irritation of the brain cause coma and convulsions.

Winckel adds to this exposition of Stumpf's views that the author protests against this theory being applicable to every case, since icterus is not present in all. Nor is his opinion settled as to whether the essential agent is an infection from an external source, arises within the body of the woman, or is derived from the fœtus. This last hypothesis is thought to be not impossible. Winckel states that the greater liability to eclampsia in plural pregnancies, the fatal influence of the disease upon the child, the fact that children with rigor mortis have been delivered from eclamptics by Dohrn and Stumpf, the condition most probably following violent muscular contractions before death, and, finally, the fact to which the author called attention in 1865, that with the death of the child in pregnancy the peril to the gravida is little or none, point to an intimate connection between the mother and the child in regard to the genesis of eclampsia.

It is impossible to give a satisfactory etiology of puerperal eclampsia. Probably the profession is coming more and more to believe that eclampsia results from different causes. Of course, all acknowledge that in some instances it is purely reflex, the irritation being uterine or vesical, for example. But this does not explain the vast majority of cases. I am not sure that the old obstetricians who made the mental condition a factor, the anxiety, fear, sorrow, or other depressing emotion, were altogether wrong; but then such a cause probably can only predispose; so, too, of intense suffering. Passing all these by, there remains the hypothesis of blood poisoning, the poison unknown, possibly not a single one, but several.

Schröder, in explaining the occurrence of eclampsia, has said that it is in the highest degree probable that, as in epilepsy, there occurs, in consequence of contraction of blood-vessels, an acute anæmia of the brain; but the causes of this contraction are unknown. He adds that in pregnancy, in lying-in, and especially in labor, as in children, there is an

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increased sensibility of the nerves, so that contraction of vessels occurs from causes which ordinarily would be powerless, and that in labor the vaso-motor centre has a high degree of irritability.

If convulsions occur during labor, few obstetricians accept the maxim of Gooch, take care of the convulsions, and leave the uterus to take care of itself, but endeavor to deliver as soon as possible without violence. A friend informs me that in the obstetric wards of the Vienna General Hospital the treatment is by hot baths, which excite labor-pains and promote perspiration, and cold is applied to the head; during the convulsion chloroform is used by inhalation. For catharsis, senna and colocynth are given, and not salines. Winckel advises in the treatment of pregnant women with notable albuminuria a pill containing one grain and a half of extract of aloes, and the same quantity of extract of colocynth; one to three of such pills are given daily, and the patient also has a warm bath.

In the treatment of the attack he rejects blood letting, as Schröder also did; he directs thirty grains of chloral by the rectum, and inhalation of chloroform. Tittel seems to have had extraordinary success with chloral, only seven of ninety-two eclamptics who were thus treated dying. G. Veit's success with the morphia treatment is also phenomenal, for of more than sixty patients, only two died. Winckel speaks of the doses of morphia given by Veit as colossal, beginning with a hypodermic of half a grain, and increasing the quantity in from four to seven hours to about three grains. But it should be remembered that this treatment was advocated many years ago by our countryman, Dr. Clark, of Oswego, and that his doses were quite as colossal as those employed by Veit. Some doctors reading the results obtained on the one hand by chloral, and on the other by morphia, may hastily conclude that puerperal eclampsia is one of the most manageable of grave disorders. Rude experience may destroy this faith, and they may learn that statistics do not always testify to universal and absolute truth, and that some women perish from eclampsia no matter what treatment is employed.

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HYDRAMNION, ANASARCA OF FŒTUS, AND HYPERTROPHY OF HEART, WITH FIBRO-FATTY PLACENTA.

BY D. LONGAKER, M.D., PHILADELPHIA.

THAT hydramnion is a symptom of various and diverse morbid conditions of the fœtal, and more rarely of the maternal, organism must be admitted.

The details of the following case are given as a slight contribution to our knowledge of the subject, because of a few unique and interesting points observed.

Mrs. Z. called me Dec. 19, 1888. She had borne a living child three years before, after a difficult and instrumental labor. It lived a short time only. She was apparently free from syphilitic taint, and gave no history of such. She was at what she supposed the seventh month of pregnancy. During the preceding week she had suffered much abdominal pain, and during the twenty-four hours prior to my call, labor-like pains had existed. These prevented sleep. On vaginal examination the os was an inch in diameter, soft. The membranes were intact, but tense. External examination failed to reveal anything in addition. No fœtal heart. The uterine tumor extended into the epigastric region. She was not certain, but thought she had felt life on the same day. Her pains continued to recur regularly, but ineffectually. At the expiration of two hours from the time of my first visit, the membranes were punctured. This was followed by the discharge of between two and three quarts of fluid. Labor assumed a more favorable character, and promised a speedy termination. The small head reached the perinæum, where it remained, in spite of very strong pains, until it was finally extracted by the forceps. The cord had firmly encircled the child's neck, passing around three times, and rendering it preternaturally short. As the child was evidently dead, there was no necessity for haste in the extraction of the body. When two rather severe pains failed to deliver it, traction was made on the head, and not until very strong traction was made did the effort succeed. The difficulty was apparent in the great distention of the fœtal abdomen. How great this was relatively, we are better able to conceive when we remember that fœtus and placenta weighed only five and three-fourths pounds. The fœtus was a male. (Plate I.) Its features were slightly cyanotic. Thighs and legs rigid; on the latter several bullæ the size of a pigeon's egg. No difficulty in the delivery of the placenta. Its decidual portion was the seat of very extensive disease. In the centre this was clearly defined, of

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yellow color. This area spread out towards the periphery, involving a somewhat V-shaped segment. Passing towards the circumference the change was less definitely marked. This area of greatest involvement may be seen in illustrations from photographs of the recent specimen. (*Plates* II. and III.) Scattered throughout the remaining placental area there are many less well-defined points of involvement. Fully one-third of organ is seat of well-marked disease. Cord eccentrically inserted. Quite œdematous throughout.

Dissection of Fœtus. — Not only the abdominal, but all the serous, cavities of the trunk were greatly distended by serum. It was most marked in the abdomen. The heart was twice the normal size; it was bilaterally hypertrophied. Both lungs were pneumonic throughout almost their entire extent. The liver and kidneys apparently normal.

Dr. B. C. Hirst kindly writes me as follows regarding his examination: —

"We found that the placenta presented the signs, macroscopically and microscopically, of fibro-fatty degeneration; from what cause, it was impossible to discover. The fœtus was examined carefully for syphilis, with a negative result. There was well-marked double catarrhal pneumonia. We presume it was a case of inspiration pneumonia."

The one fact to which it is especially desired to direct attention is the association of hypertrophy of the heart with this general dropsy of the fœtal system.

In a case shown at the April, 1887, meeting of Philadelphia Obstetrical Society, a similar association was observed. This case differed in hat there was no placental disease, and that there was a large myxoma of the neck.[1]

This association is not a new observation. Still its rôle in these ases is different from those of Werth,[2] Kuester,[3] and others; for in heir cases the mechanism of the production of dropsy differs. These re the cases of uniovular twins, with hydramnion of one, and oligo-ydramnion of the other, fœtus.

No theory at present seems to suggest itself to explain the sequence f these pathological conditions as cause and effect, and I shall, therefore, e content to record the facts of the case. Hydramnion, with anasarca, ouble pneumonia, hypertrophy of the heart, and extensive fibro-fatty egeneration of the placenta.

[1] Am. Syst. of Obstetrics, vol. i., p. 767.

[2] R. T. Wilson: Am. Jour. of Obstr., January, 1887.

[3] Idem, vol. xvii., p. 1208.

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CASE OF HÆMATOMA OF RIGHT OVARY. — ABSCESS OF LEFT OVARY WITH PYOSALPINX. — UNUSUAL DISPLACEMENT AND ATTACHMENT OF URETERS. — LAPAROTOMY. — RECOVERY. [PLATE IV.]

BY ROBERT H. MURRAY, M.D., NEW YORK.

Mrs. B., aged 27, married three years, and II. para, consulted me Nov. 27, 1888, for constant pain in the lower abdomen, with lassitude and tired feeling on exertion, loss of strength, and loss of weight during the previous two months to the extent of ten pounds. She was a *petite* blonde, her usual weight being one hundred and ten to one hundred and twenty pounds, and her anxious face showed much suffering.

Menses first appeared when 14 years old, and were regular and not painful, lasting a week.

She married at 24, had male child with easy labor at full term, nine and a half months from date of marriage.

The second child sixteen months after the first; the pregnancy and confinement were apparently normal, but her convalescence was slow.

The second child had congenitally a cystic tumor in the scapulo-clavicular region, left side extending from clavicle to angle of jaw, so that the head could not turn well to the left.

This tumor has been repeatedly tapped, but the relief is only temporary; its contents were a watery viscid fluid of a straw color, till the last tapping, done recently, when the contents were bloody and grumous, probably from an injury when at play.

The children are otherwise quite healthy.

The patient nursed both children, the last one for ten months, ceasing two months ago. The menses reappearing two weeks since were profuse, lasting one week, without much increase of pain.

The patient's last confinement was on the 3d of February, 1888, of moderate duration, and uncomplicated. She did not, however, have a good convalescence, and though without fever or pain, she was weak and draggy for some time.

On the 19th of April, five weeks from confinement, she had nausea and fainting in the morning on arising, felt weight and heaviness in the loins, and though nursing her child, thought and felt from her symptoms that she was pregnant.

She consulted her physician, who told her the symptoms were due to a leucorrhœa which she had and to indigestion, causing flatulence. The

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nausea and morning sickness continuing, she thought that the feeling of life was present; but her physician assured her it was only flatulence, and treated her for the leucorrhœa for two months.

On her return from her summer trip to the country she felt much better, but speedily ran down in general health, so that at the time she consulted me she had lost fifteen pounds in weight.

On examination, Nov. 12, 1888, when she consulted me, I found the uterus fixed, somewhat enlarged and tender, and a profuse leucorrhœal discharge of muco-pus, the menses having been one week before, with some clots, but no shreds, and not very painful.

At the right side of the uterus, very perceptibly felt on bimanual palpation, was found an immovable tumor the size of a mandarin orange, not fluctuating, tender on pressure, and directly connected with the Fallopian tube, which was distended larger than a finger; on the left side the tube and ovary were enlarged, fixed, and not fluctuating. As the case by the previous history of pregnancy, the appearance of the tumor, the constant pain, and loss of strength and weight gave a suspicion of extra-uterine pregnancy, and there was evident pyosalpinx, opinion was given that immediate operation was advisable.

A consultation was suggested, and the case was seen by Dr. W. R. Gillette, who thought that the pyosalpinx with adhesions, and possibly hæmatoma of right ovary, necessitated operation.

Dr. J. Janvrin also saw the case, giving as his opinion a probable extra-uterine pregnancy and pyosalpinx of left tube and abscess of ovary.

Two days afterwards, in a thoroughly disinfected room, I did a laparotomy, found the left Fallopian tube distended with pus, and an abscess of the left ovary; on the right side a pyosalpinx and hæmatoma of right ovary with abscess.

The adhesions were very extensive, causing much loss of time and considerable hæmorrhage in detaching the uterus, tubes, and ovary from the intestines.

On the left side the ureter ran downwards and backwards through the adhesions, and had to be freed and followed up in about six inches of its course to distinguish it carefully from the peritoneal adhesions.

An abscess in the left ovary ruptured while the ovary was being detached, and the separation of the Fallopian tube from uterus and broad ligaments caused such profuse hæmorrhage that only by quilting the broad ligament with catgut sutures and attaching it to the side of the stump could the flow be stopped.

On the right side the large mass was with the same difficulty detached.

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The ureter on this side also ran down through the mass of adhesions and through an arch made by them, requiring the most careful handling to avoid its rupture.

After the removal the abdomen was carefully cleansed by hot water, sterilized by careful boiling, and the intestines freed from adhesions.

There was so much oozing that a drainage-tube was put in at lower angle of the wound, and the abdominal wall sewed with twisted silk, the peritonæum having been separately united with the running catgut suture. The abdomen was dressed as usual with iodoform gauze, boric-acid cotton, and binders. The operation — in which I was very kindly assisted by Drs. W. R. Gillette, J. E. Janvrin, E. C. Grandin, and ether given by Dr. H. Conrad — took about three hours, as the adhesions and hæmorrhage prevented rapid work.

The incision was short, — about four inches in length, — the pedicle secured by twisted silk with Staffordshire knot.

The patient was put in a warm bed, and without stimulants reacted well from the shock, with little vomiting; her temperature the same evening, 99°, pulse, 99, respiration, 26; in the morning, temperature, 99°, pulse, 86, respiration, 28, with slight tympanites. The oozing from the drainage-tube required two changes of dressings in the first thirty-six hours, when, having ceased, the drainage-tube was removed, two sutures put in, and a dressing applied, which was not changed for four days. The sutures were removed on the eighth day, and absolute union was obtained.

The progress of the case from the operation through to convalescence was so good that it is not necessary to detail it more than to say that the pulse was never up to 100, nor did the temperature rise to 100° but once, on the third day.

Three weeks and two days from the operation the patient sat up out of bed.

The interesting features of the case are the difficulty in diagnosing the true nature of the condition, — extra-uterine pregnancy or pyosalpinx with hæmatoma, — the symptoms being closely those of pregnancy in the patient's mind.

Next, the definite history in the light reflected by the specimens and the history that the orgin of the trouble was puerperal. After the operation the patient was absolutely relieved of the heaviness and weight about the loins, and felt better, in spite of its severity and duration.

In the operation itself we would call most attention to the peculiar displacement of the ureters, and the difficulty in recognizing them from the ordinary adhesions, requiring the tracing them up towards the kidney to determine their character.

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The specimens show in the left ovary the abscess cavity ruptured, with the enlarged tube, the right one exhibiting the hæmatoma opened, the clot being examined, showing no trace of fœtal structure; the large tube is cut along its length, and shows the thickened wall and pus-secreting membrane.

135 WEST 23D STREET, NEW YORK.

COMPLICATIONS FOLLOWING ABDOMINAL SECTION.

BY J. M. BALDY, M.D.[1]

THE attention of surgeons, in the past and at present, has so commonly and almost exclusively been called to the perfection of the different abdominal operations, that sight is lost of the possible complications which may follow; or, if noticed at all, they are kept locked up in the bosom of the individual himself, and the profession at large hears and consequently knows very little about these annoying and at times serious results. In consequence of this, medical men are continually running across these patients and are having their faith in the value of the original operation shaken. Most men go into an operating-room, see the operation, have a pathological specimen shown them, and then go away, satisfied as to the justifiability of the operation, and confident as to the results. They may or may not see the patient several times during the treatment, but are generally satisfied with an inquiry as to how the patient is progressing, and finally have the satisfaction of hearing that she is well and has been discharged. The case is probably reported as cured in some society or medical journal, and thus the favorable statistics are swelled, and inexperienced and untrained men are led into attempting the operation, usually with the result of sacrificing several lives before they are frightened off.

It is about time for surgeons to look at and seriously study some of the dark sides of abdominal surgery; for a dark side it certainly has. Our results, as far as removing disease is concerned, are about perfected; let us now turn some of our energies into preventing or alleviating some of the after-complications, which are in many cases as bad as the original disease itself; probably not causing such immediate danger to life, but producing symptoms just as hard to bear, as far as the patient is concerned, and practically, to her belief, fully as bad, at times, as her former trouble.

When I first began to turn my attention particularly to gynæcological

[1] Read before the Philadelphia Obstetrical Society, March 7, 1889.

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surgery, especially the abdominal variety, I was considerably worried that my cases did not always run as smooth and uncomplicated a course as I had been led to believe those in the hands of my friends and others did. That they were not perfectly well when they got up, and came to me sometimes for weeks, complaining of one thing or another, was a source of great mortification to myself; and, finally, I began to find that troubles continued and others appeared which it was extremely difficult to control. At first supposing that I was the only one so afflicted, I thought there must be something radically wrong, either with my operations, or with my handling of the case afterward; and yet I could not reconcile these thoughts with the fact that I usually had the very best of assistance at the operation and the constant advice of most competent men in the conduct of the after-treatment. Now I am constantly seeing and hearing of cases with similar troubles as my own, and some with complications I have never personally met with. These cases are by no means confined to the practice of any one man, or any class of men; but represent patients of nearly every prominent operator in this city. Nor do I think that these results are confined to Philadelphia, but will be found wherever abdominal surgery is practised.

To fully consider the causes, prevention, and cure of these complications is beyond the scope of this paper; my object being simply to call general attention to the prevalence of their existence and to make a few remarks on the most frequent of them. Some of the subjects have been, from time to time, noted by other surgeons, and have been called to the attention of the profession, only to be dropped, almost as if they were subjects not to be handled and publicly discussed. Among the most frequent of these might be mentioned hernias; simple fistula-tracts; fæcal fistulas; pain, pelvic or abdominal; œdema of the lower extremities. I have seen many patients suffering from all of these troubles, and have had some of them follow in my own practice.

Holmes has found that he had thirty per cent. of hernias following his operations. Now as these cases were for the most part hospital patients, he could certainly not have kept track of them all, and so, if the whole truth were known, the per cent. would be much higher. It would seem at first sight that a patient developing a ventral hernia would return for treatment; but not so, for in my own case, with the exception of one patient, none of them ever reported, and I only discovered their existence from outside information. Thirty per cent. is, I think, a fair average of hernias following section. Most of the operators with whose work I am familiar have, I am confident, almost if not quite that proportion. I know of many cases in this city, of which the operator himself is not yet cognizant.

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Now a ventral hernia is by no means a harmless thing. I can recall women who suffer almost as much from the presence of the hernia as they did from the original disease; in fact, more so. One case I know of had originally a small unadherent ovarian cyst, found in the course of a general examination, and which gave her few or no discomforts; she now has a good-sized ventral hernia, from which she suffers considerably. These hernias constantly tend to increase in size, and when the woman is one who must be on her feet constantly, carrying heavy burdens, lifting heavy weights, or, in fact, doing anything which will increase the tension at the abdominal opening, the result must invariably be a rapid enlargement of the protrusion, with all the accompanying distresses. There is no good reason that some of these cases should not eventually, from various causes, become strangulated, and require a second and more serious operation; this has actually occurred. The mere protrusion and displacement has caused so much trouble that an operation has been devised for the closure of the opening. The causes of hernia have been somewhat a matter of dispute; some contending that the drainage-tube is most at fault, while the advocates of the tube repudiate that idea. Then again improper suturing is charged with the results. Whatever the cause, the lesion is certainly a lack of union of the muscular tissues and the deep fascias; the remedy is plainly that of securing perfect apposition of the edges of these tissues. Time is frequently, in an operation, a most important element, and there is no need of wasting it by passing a separate row of sutures in the peritonæum itself, as has been advocated and practised in some of our neighboring cities. The peritonæum always unites, and does so in a very short time. As far as I know, it has never failed to do so, excepting in those cases where the whole incision failed. The hernia is always found to have a covering of skin, superficial fascia, and peritonæum. It seems to me that a continuous catgut suture of the muscles and deep fascia is all that is needed beyond the usual, all-the-way-through suture. I can recall a case where the presence of a hernia, by demanding an operation for its closure, resulted in the death of the woman.

This city now contains a large number of women with fistulous tracts in their abdomens. Some of them have followed drainage, and others have been produced by abscesses rupturing through the incision, and the track never closing again. The extra-peritoneal method of treating the pedicle in hysterectomy is a very frequent cause. The length of time it takes the clamp to come away is often so great as to leave an opening which constantly discharges pus — in small quantities it is true, but yet enough to be exceedingly annoying and uncomfortable. I have had two such fistulas following hysterectomy, and neither of them have I

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yet been able to cure; the one now gives fair promise of soon closing. I have, fortunately, had no other fistula tracks following my operations. One case I know of was a few years ago operated on for some pelvic trouble, and after a few weeks the patient was sent to her home, with a drainage-tube (rubber, I think) in her abdomen. The surgeon lost sight of her, and the tube being neglected soon became most foul. The case afterwards drifted into one of our large general hospitals and there died. Another case was operated on for a pus-tube; the second tube and ovary, being apparently healthy, were left *in situ*, but these afterwards took on disease, and a second operation failed to remove it. A third operation was undertaken by another surgeon, with what result was never known but by a select few; certain it is that a fistula-track followed, after a severe illness. This woman, also, finally found her way into one of the general hospitals and was miserable enough to die, if she did not do so; what finally became of her, I do not know. A third case had one side of a double tubal trouble removed, and the drainage-track never closed. I saw the woman, a year or more after the operation, on her death-bed. The track was discharging pus freely, and always had done so; before her death, fæces were also finding their way through the opening, a slough having evidently come away from the bowel. A fourth case, after everything else had been done without success, had a counter-opening made into the vagina by another surgeon into whose hands she had fallen. The operation also unfortunately opened the bladder so high up that it was impossible to repair it. She has now a vesico-vaginal fistula in addition to her other troubles, and at last report was in a dying condition. And so I could go on with case after case, some as bad and some not so bad; but, at its best, a fistula is a most miserable complication, and too much attention cannot be given to their prevention. If the drainage-tube is not responsible for the hernias, it certainly is for a large number of the fistulas; and although I am a firm believer in the great benefits to be derived from free drainage, I fully realize its disadvantages, and often wonder if it could not be done away with oftener than it is. The great prevention of the formation of these fistulas is to prevent abscesses forming and the necessity of their subsequent discharge, — if they do form, it is better to go boldly in and empty them at once, than to wait and have them open by a slow, tedious, and uncertain process, which may not be brought to an end before the patient is, — the avoidance of the unnecessary use of the drainage-tube, and when it is used, the most careful attention to its cleanliness, and its early withdrawal. I believe a permanent track results oftener from an unnecessarily prolonged use of the tube than from any other cause.

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Fæcal fistulas are not so common, and yet enough of them occur from time to time to be a warning of the danger of their production. When they do occur, they are usually so deeply seated and so bound around by inflammatory products that they cannot be reached; and if they are reached, as a rule, require one of the most dangerous and difficult operations in the whole range of abdominal surgery. I can recall a number of these accidents. One could not be reached after an extended trial, and the whole incision was closed up in order that the patient might die as quietly as possible; this she did not do, however, but lived in spite of everything, and the track afterward closed of its own accord. Another case required the most constant and careful irrigation, after an unsuccessful attempt had been made to reach it to save the woman's life. And so they go; if an attempt is made to close them, a great risk is taken; if they are let alone and do not close spontaneously, the patient had better be dead. The usual cause, as far as I have been able to observe, is intestinal adhesion to diseased organs. Often after tearing a loop of gut loose, I have returned it in fear and trembling, lest a piece at the point of adhesion slough out and give me a fæcal fistula. The prevention is the greatest care in tearing loose each adhesion, and a most careful attention to the after-treatment. When they occur, they are best left alone.

A continuance of pain, or the appearance of a pain not before present, following abdominal section, is so common that every one engaged in this kind of surgery must have noted its frequency. This pain is usually not very severe, but is of a constant nagging character, — such a one as to so constantly wear on a woman's nervous system that it soon renders life a misery to herself, and her a burden to every one around her. At times, however, it assumes a severe character and becomes almost unbearable. I have known of a large number of such cases, some of which required an operation for their relief. In two cases of this kind, the only lesion found was an adherence of the omentum to the abdominal incision, the freeing of which cured the pain. Many others are now going about, suffering as much as they did before the operation. Most of this pain is, I believe, due to adhesions formed between the omentum or intestines and raw surfaces left by the operation, and the subsequent dragging on these points. This would seem to be true, as most of the cases which I have known of and which were operated on and the adhesions released have been cured or nearly so. I also think that the adhesions in the original disease oftentimes cause most of the suffering; this is especially so in the pelvic cases. From these same adhesions we have sometimes an obstruction of the bowels, either at once or later, after convalescence,

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and causing death in consequence. I can remember several cases of this kind which could be explained in no other way, and, in fact, some of which were demonstrated to be so by a post-mortem examination. The remedy for their formation and all their attendant danger and discomforts is to keep the bowels moving, so they can have no chance of adhering. The best way of accomplishing this is by purgatives, and by the non-use of opium. Fortunately, the indications for purgatives are so many and so constantly present, that they can almost always be used.

Œdema of the lower extremities I have a number of times seen; sometimes only temporary, but at others of long enough duration and severity to be of considerable annoyance and worry to both patient and surgeon. In my own practice this has occurred several times, but has always eventually cleared up.

When every person about to undergo an abdominal operation must run the gauntlet of all these complications, as well as many more mentioned, it becomes a serious matter in deciding for or against an operation. We have here more than the immediate risks to life to consider, — we must think if the patient has his or her present disease removed; will she be any better off, or may she not be the worse for the interference? At any rate, such a state of affairs should be a warning to inexperienced men not to be misled by the brilliant reports seen in the journals, and not to rush thoughtlessly into an operation, expecting to produce the same results. They should know that, as a rule, only favorable cases are reported, and that men do not like to publish to the world their bad work or misfortunes. Abdominal surgery is by no means the simple, easy procedure some men would make us believe; and such an operation should never be undertaken except after the most careful consideration of all the risks that must be run, the chances of benefit to the patient, and in the presence of actual demonstrable disease. Until the dark sides of abdominal work are well known to the profession at large, the *furor operandi*, which has been so justly complained of, will continue, and many women will succumb to the results of inexperience.

We regret to have received notice of the temporary suspension of the publication of the "Gazette de Gynecologie" on account of the ill-health of the editor-in-chief.

Dr. P. Ménière is obliged for the same reason to close his important hospital clinic in the rue du Pont-de-Lodi, and to limit himself for the present to his private practice.

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OBSTETRICAL SOCIETY OF PHILADELPHIA.

THURSDAY, MARCH 7, 1889.

DR. THEOPHILUS PARVIN in the chair.

Dr. J. M. DA COSTA reported a *double uterus and vagina.*

Uterus normal in length, with thin walls and anteflexed; otherwise well shaped, but with septum of from one-sixteenth to one-twelfth inch thick, running from os tincæ to fundus, dividing it into two equal parts. Both sides of uterus were open, and a sound could be easily introduced into either side. Septum perfect in its entire length.

Vagina on first inspection appeared like a single one, but closer examination showed a septum reaching from the vulva to within less than one-half inch of the uterus, attached to and tying together the front and back walls of the vagina. Septum was thick and fleshy near vulva, thin near uterus. Opening on left side of vagina was good, but small; that on right side not to be seen at first, but could be found by hooking the finger around the cervical end of septum and working it down, when the end could be seen at the vulvar opening. Septum was cut, and raw edges stitched together. Before operation the septum was about two and three-fourths inches long; after cutting and suturing, the parts contracted to about one and three-fourths inches long, and the vagina, which before operating would with difficulty admit the very smallest speculum, bore easily the largest sized "Neugebauer" blades.

March 6. The severe pelvic pains she continually suffered from have all disappeared. Menses formerly were a mere discoloration, lasting twelve to twenty-four hours. She is to-day just over a good, full menstruation, which lasted over four days.

Dr. J. M. BALDY read a paper on Complications following *abdominal section.* (See page 329.)

Dr. WILLIAM GOODELL wholly agreed with the writer of the paper in regard to the stubborn nature of these fistulæ, and to the impossibility of avoiding them. He had now three cases of fistula. One had followed the removal of an intra-ligamentary cyst, in which he had reopened the wound for bleeding. She recovered, but a fæcal fistula had made its appearance about the fifth day, and had never closed. He had to peel off the tumor from the rectum. It was now a year and a half since the operation, and she was in the hands of a competent surgeon in the country. The only annoyance to the patient is an escape of gas from the wound. The second case followed the prolonged use of the drainage-tube after

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abdominal section for pelvic abscess. He had not had charge of the after-treatment, but she was in the hands of a skilful surgeon. It may be needful yet to make a counter-opening in the vagina. The third case was one of recurrent intra-ligamentary cyst. The fistula resulted from a previous operation, in which the surgeon used the clamp many years ago. He operated last November, and removed a recurrent cyst lying in a very large abscess cavity. A drainage-tube was then used, which he still kept in because he could not get the fistula to heal from the bottom. To-day he made an application of iodine to the track, and told the husband to repeat it daily for a time. He has had cases of fistula when the drainage-tube was not used, but these were due to non-encapsulation of the pedicle ligatures. In one, while using the syringe, the ligature was washed out. This gave him the cue, so in the others he fished the ligature out by means of a small hook on the end of a fine wire. On the other hand, in the case of an ovarian abscess, he had kept drainage up for several months, and yet the track closed. It is his intention in a third case to pass nitric acid to the bottom of the fistula, and see what can be accomplished in this way. In this case she menstruates through the track. He thought if operators would wait some time after they have operated before reporting their cases, they would find a number of hernias. He takes a good deal of pains to avoid this accident and close the abdominal wound in an analogous way to that described by Dr. Price. The tendon, when retracted, he brings forward as much as possible with forceps, so as to bring it in contact with its fellow. He has had cases in spite of every care. In the official report of Imlach's cases, although these were all cases of oöphorectomy, needing a very short incision, the percentage of hernia was fifteen. He keeps his patients in bed for two weeks before allowing them to sit up. In two cases in which he removed the ovaries in fibroid tumors, he has had the incision rupture from too early taking out of the stitches. In these cases he sometimes leaves them in for two weeks. One case went home nineteen days after operation, in spite of orders, and the train becoming derailed, the jarring forced the cutaneous part of the wound open. Stitches had to be put in.

Dr. M. PRICE did not think with Dr. Baldy that abdominal surgery had anything to regret in these cases. He admitted that much of the dirt and filth and many of the accidents which follow these terrible operations are actually due to the surgeon. He did not wonder at there being fistulous tracks, for the reason that in many of these cases the adhesions to the bowel are of such strength that their separation often removes everything, down to the mucous coat. He has seen as much as six or seven sutures applied to such a case. Fistula is a repetition of the old abscess, which finds its

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way to the surface through the drainage-track. All of the disease has not been removed. In many cases the fistula saves the woman's life, and gives the surgeon a path through which to perfect his otherwise imperfect work Fistula is a proof that the case has not been properly cared for. He did not believe that thirty per cent., or even five per cent., represented the number of hernias. He has only seen two cases follow. Their closure is unattended with danger. If due care and cleanliness are observed, fistulæ will not occur.

Dr. J. PRICE was a little surprised that one so deeply interested as Dr. Baldy was in this subject of abdominal surgery should stimulate vicious elements to criticism of our present position, especially since they now had their attention turned towards surgery of the brain, spinal cord, etc. Dr. Baldy speaks of hernia. The position of the incision, the condition of the abdominal walls, and the manner of introducing the suture are of great importance. Death has followed tight sutures, and he was satisfied that hernias often follow them. He always draws his sutures lightly. If you used three or four to the inch, tied them lightly with perfect coaptation, your results will, as a rule, be perfect. In introducing his sutures, he takes in half as much skin as fascia and twice as much fascia as peritonæum. This gives better apposition to the centre of the wound. He has not had a suture-track abscess for more than a month, nor has there been any mischief about the tube. Nursing is of the greatest importance. The old nurses are meddlesome and dangerous, and he was glad to see them replaced by younger women. The tube can be dispensed with very often if the irrigation be thorough. Most surgeons are in too much of a hurry to get their patients up. Early rising is dangerous, and he has known surgeons to brag of getting their patients home in ten days. In fistulous tracks, through which menstruation occurs, the only thing to do is to tie the tube and release it from the abdominal incision. He has often had to deliver the bowel in order to release adhesions, and even then torn the bowel down to the mucous coat. This does no harm if the serous surfaces are brought together. A drainage-tube resting against these torn bowel surfaces favors the occurrence of a fistula. A man who gets scared at a fistula or ventral hernia is not prepared to do good work; his work begins in doubt and ends in disaster. The operation for curing a ventral hernia is not dangerous. We cannot ignore the importance of precision in diagnosis. We must try to decide as to the probable nature of the lesion. Dr. Baldy called attention to one point; that is, the necessity of recognizing something definite on which to operate. Savage and others are satisfied to operate for subjective symptoms only. This is not right.

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The other day he refused to operate in a case which had multiple abscess in the lungs. Two weeks before he had gone to the house prepared to operate, but the family had refused. The time will come when operators will be most arbitrary in these cases. We shall have the right to say that if the general practitioner waits until the eleventh hour, we will not step in only when it takes a feather to depress the beam. Last summer a patient refused operation; to-day she sent for me and requested it. Peritonitis is often due to an imperfect toilet. It is often of limited extent or localized, leaving adhesions to portions of the viscera. This is a common source of pain and discomfort. The only good remedy is to do the work over and release the adhesions. This past summer he had either done himself, or assisted others to do, eight of these operations over, and they had been the most difficult and trying of his whole experience. He wished to call attention to one case on which he had operated three times. Dr. Baldy saw the work. When he first saw her, pus was escaping from the umbilicus. He opened the abdomen, but failed to remove anything. Drainage was followed by a good recovery, but the wounds did not close. A year later he reoperated, but a fistulous track was left. Again, a year later, he used a catheter made of coils of wire. He passed this along around the ileo-pectineal line, towards the region of the kidney. He dissected along the pelvic bones, and irrigated through the catheter. Last week she was delivered of a fine baby, somewhere in the West. In this case he could find the ovaries, and there was no lesion of them or the tubes. This is the only case of pelvic abscess without tubal disease he had ever seen in a long and rich experience. He wished to speak of two of the cases referred to by Dr. Baldy in his paper. One case he had operated on early in his experience, and had removed only one side of a specific tubal trouble. This he would never do again. The patient went into other hands, and he did not care to refer to the ghastly surgery which followed. Another case of which he had personal knowledge was a case of imperfect surgery. This was a large pus sac, which could have been removed, but was drained. The woman died of psoas abscess. Skene had called attention in his book that pelvic abscess frequently caused psoas abscess. The incomplete removal of diseased tubes should be rectified. If an inch of tube is left, it will most likely do mischief. He has curetted into the cavity of the uterus, removing a cone-shaped piece. The tubes should be tied close to the uterus, and the ovaries should be tied at a good surgical neck, and the result will be about perfect.

Dr. MONTGOMERY. — We have become so enthusiastic in the field in which we are working as perhaps to overlook the dangers and difficulties that environ the way; and in our desire to defend, and possibly to push

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forward. our own work, we are sometimes led not to report our disasters. I think that Dr. Baldy has done us a kindness in dwelling on some of the disasters that may occur in abdominal operations. I am rather surprised to find that hernia is such a frequent lesion in his experience. I have not found it so. The method of closing the wound suggested by Dr. Price is the one that I have largely used, and unless Dr. Baldy has come across some case of which I do not know, I have never had a hernia in my experience. Fistulas with a constant discharge are exceedingly depressing and distressing. I have thought that drainage per vagina might be preferable where this accident is liable to occur. In such a case, if fistula did follow, it would not be so bad as if it were in the abdomen. I operated this fall on a case in which half a gallon of broken-down blood was removed from a sac. The sac was drained, but death occurred in a few days. The post-mortem showed an abscess below the sac, which would have been opened if vaginal drainage had been made. The after-treatment is exceedingly important in many cases. These results are no doubt due to the fact that there still remains some diseased tissue about the ligament or uterus. Where the tubal disease is gonorrhœal, it is very hard to tie close enough to the uterus and to remove all the pyogenic membrane. Even when we do, the inflammatory condition is still present in the uterus. The tendency of the extension of such inflammation to the pelvic tissues is, in many cases, the cause of after-trouble.

Dr. HIRST.— In three cases he had lately to deal with, fistula directly followed laparotomy. One woman died a year after the operation in consequence of this complication. In one case of great interest a mass of ligature was fished up, but the fistula still remains. After waiting some time, he opened the vault of the vagina, behind the uterus, onto the point of a sound passed into the fistula from above. He did not think he could have opened the bladder; but a vesical fistula must have already existed, for when he cut through the vault of the vagina, urine gushed out. A drainage-tube was put through the whole track; but now four months have passed, and the woman is dying. He should hardly think the use of nitric acid free from danger, used as recommended by Dr. Goodell.

Dr. HOFFMAN. — The paper of Dr. Baldy is iconoclastic. He looks at the matter from the wong side. He collects a number of bad cases and puts them forward as an illustration of all abdominal surgery. If we look at this collection in the light of the fact that each case represents but a small proportion of the work of each man, the percentage of bad cases will be found to be almost infinitesimal. I myself do not believe, that, in the light of the bad showing which Dr. Baldy has made, if he to-morrow met with a case such as Dr. Price has referred to, he would

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hesitate one moment to operate. He would trust to doing his work well, and would feel sure that in nine cases out of ten he would have a good result. A report in a journal a few days ago shows that a prominent operator caused two deaths because he did not know how to tie the ligature. If a man does not know how to tie a ligature, that is no reason why abdominal surgery should be condemned. In my own experience I have never had a fistula follow these operations, nor have I had a hernia. Early rising is wrong. I know of an operator who boasted that his patient had gotten up at the end of a week, rode home, and walked up two flights of stairs to her room. I do not know whether she had a hernia or not, but if she did not, she should have had.

Dr. BALDY. — I did not bring these cases forward as an objection to abdominal surgery, nor would they, nor many more, stay my hand if I found a case which required operation. My desire was to call direct attention to such accidents as these, and to stimulate our efforts to prevent their frequency. Nor is this by any means a complete list of all the cases on which I could put my hands. I could add dozens to the ones I have named. These cases have occurred in the hands of prominent men, — men who profess to be teachers, and who number their cases by the twenties, fifties, and hundreds. If we see such accidents in the hands of such men, we shall have more serious results in the hands of those less expert. Many cases of fistula can be avoided by care in the use of the drainage-tube. Few surgeons understand how to properly take care of a tube. I cannot agree with Dr. Price that fistulas always follow old fistula tracks, and are caused by diseased tissue left behind. In the majority of cases that I have seen, the diseased tissue has all been removed, and the track occurs through what was formerly clean, healthy tissue. I think that one common cause of hernia is the use of hæmostatic forceps. These bruise the tissues, and if allowed to remain on too long cannot but irreparably damage the vitality of the parts included between the blades. The less we use the forceps, the better union we will get. It is a rare occurrence that I have to use more than one or two pairs, sometimes three. These are always removed in a few moments; in fact, as soon as I open the peritoneal cavity. They are no longer needed, and often, if you are working through a small incision, are in the way. The fewer foreign bodies in and about the abdomen and abdominal wound the better for the patient and the easier for yourself. Cleanliness in all its details cannot be too strongly insisted on.

Dr. E. P. BERNARDY. — *Suppression of urine for seven days in a child 2 years old, without serious result.*

I report the history of this case on account of its rarity. The case seems to me to be one of idiopathic suppression of urine. No assignable

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cause could be found; the little patient had enjoyed good health up to the time of its illness; never had measles, scarlet fever; in fact, none of the diseases of children; had an attack of catarrhal pneumonia when 18 months old.

I was requested to see the little patient on the evening of Aug. 17, 1888. He had been ailing for the past few days, disinclined to play; when well, of a lively disposition. Nausea was present, and vomiting had occurred during the day; tendency to loose stools; tongue clean white, and flabby; skin white, eyes dull, pulse quick, no fever; ordered pepsin mixture. The next day stomach more irritable, could not retain anything; had an attack of hiccough; pulse full and quick, no fever; was informed by the mother that the child had not passed any urine since the evening of Aug. 16, 1888; ordered xx gtt. spt. æther. nit., in warm water, every hour or two. The following day (Aug. 19, 1888) condition about the same. Passed about quarter of teaspoonful of pure blood from the penis. Examination over region of bladder showed no indication of fluid. Ordered a warm digitalis and flaxseed poultice to be applied over region of kidneys; a bitart. potassa mixture, with infusion digitalis, internally. August 20. No improvement. Did not sleep well during night; eyes dull; twitching movements of the muscles of the upper and lower extremities; easily startled. August 21. Twitching increased, face of waxy hue, skin hot and dry, bowels opened several times. August 22 and 23. Skin burning hot; restless, sleepless; twitching excessive, head thrown back, eyes dull and heavy, face puffed, skin waxy, lips bloodless; no pain locally, even when pressure is made. August 24. Close examination over region of bladder shows it empty. Six dry cups over kidneys and other treatment continued. Five hours later passed a large quantity of clear urine. August 25. All nervous symptoms abating; eyes clear; stomach less irritable; passed urine of a light yellow color. Improvement continued, and patient discharged Sept. 5, 1888.

The first thing that impresses us is the few dangerous symptoms apparent in the case. We know when complete suppression, or even partial suppression, of urine takes place in kidney troubles, how soon the case terminates in coma, convulsions, and death. Leaving out the suppression of urine in the above case, there was no possible symptom indicating the dangerous condition of the patient.

The literature on this subject is meagre; the only work on practice which mentions the subject is the sixth edition of George B. Woods, on 1876. On Suppression of Urine he states: "By suppression of urine, as a title of a distinctive affection, is here meant either a complete cessation of the secretory action of the kidneys, or a diminution of it so con-

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siderably as to be clearly morbid. It is undoubtedly in general, perhaps always, a mere symptom or effect of some other disease; *but instances occur in which no other affection is obvious; and in these it must, in the present state of our knowledge, be considered as idiopathic"* (italics my own). On p. 677: "A rare form of suppression, occurring apparently as an idiopathic affection, was described by Sir Henry Halford, and has been occasionally met with by other practitioners. A person in apparently full health observes that he passes little or no water, but suffers from no other inconvenience than a feeling of restlessness and anxiety, with perhaps a little uneasiness in the lumbar region. After a day or two he is seized with a chill, or, finding the urinary affection unabated, becomes somewhat uneasy and applies for medical advice. There is no fulness or pain over the pubes or in any part of the abdomen, no febrile action, no symptoms whatever calculated to call attention decidedly to the kidneys, except simply that of great deficiency or absence of urine. No effort on the part of the patient is of any avail in increasing the discharge, and the introduction of the catheter is followed by the escape of only a few drachms of a pale, somewhat turbid urine, usually coagulated by heat, and of little density. In a short time, however, nausea comes on, and increases until vomiting results; and this continues afterwards to be one of the most troublesome symptoms. The patient becomes dull and torpid; the pulse, so far from being excited, is usually less frequent than in health. The urine, if not completely suppressed from the beginning, now becomes so. A urinous odor is sometimes exhaled from the surfaces. The dulness increases to drowsiness, with occasional signs of mental wandering or incoherence. Eructations and hiccoughs are not infrequent symptoms. In about four or five days the patient sinks into coma, and dies afterwards in the midst of repeated convulsions."

Many of the above symptoms were well marked in our little patient's case. Notably, the condition of the pulse; no febrile reaction, or little, if any; an absence of any dangerous symptoms likely to attract attention.

Dr. CHARLES P. NOBLE. — *A case in which four drachms of Squibbs' F. E. ergot was administered early in labor.*

On the 30th December last I was called to attend Mrs. M., in labor with her second child. Vaginal examination showed that labor was just beginning. The os was slightly patulous, the vertex was presenting, but the head was not deeply engaged in the pelvis. Abdominal palpation showed that the child lay in the first position. Mrs. M. had had malarial intermittent fever during the preceding week, but had treated herself with quinine. This being her "chill day" I ordered her ten grs. of quinine, and at the same time wrote for an ounce of F. E. ergot, to be used after the

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completion of labor. On my return, after a short absence, I was informed it was well I had come. One should never be surprised in obstetrical practice, but as I hastened my steps, I reflected upon how easy it is to be mistaken in prognosis. Upon reaching the head of the stairway I heard groans, as if issuing from one in the final throes of labor. On entering the bedroom I was met by the statement, "Oh, doctor! your medicine is bringing it," and was told that violent pains had come on about an hour after my departure. Questioning the patient about the medicine, I was told that her mother had given her three spoonfuls of the ergot, — the mother knew the odor of ergot, and had taken it in many of her ten labors. The bottle of ergot was half empty. The violent, and as I now found continuous, pains were thus explained. Telling the patient that her mother had anticipated my wishes in the administration of the ergot, also that no harm had been done, — which, however, I was not so sure of, — I proceeded to examine into the condition present. The woman was suffering agonies, the uterus was rigidly contracted, and it was not possible to demonstrate any rhythmical relaxations. Internal examination showed the cervix fairly dilatable, but the os was not larger than a half-dollar. The fœtal heart could be plainly heard, but was beating faster than at my first visit. Evidently the condition was somewhat serious. I administered a hypodermic injection of one-fourth gr. morphia with atrophia to the patient, and then gave chloroform freely enough to suspend the reflex abdominal contractions, which were well marked. From the combined effects of these remedies an improvement was soon noticed; the continuous, or nearly continuous, ergotic contractions were replaced by rhythmical contractions; the cervix dilated rapidly. When the cervix was pretty well dilated, I ruptured the membranes to hasten the labor, as the fœtal heart-beats were not so easily heard as before; and as the case was at that time easily under control of the forceps, I felt much inclined to apply the forceps to expedite delivery, but concluded that it was best to watch the fœtal heart and interfere on indications. Labor progressed rapidly, and in a little over an hour from the time chloroform was given the head was on the perinæum. There it was arrested by a cicatricial band, extending across the vagina, the result of a laceration during her first labor. As it was evident that this would not stretch, and as the fœtal heart-sounds, while still to be heard, were less distinctly audible, I made traction on this band with two fingers until it gave way. The child was born soon after without further laceration of the pelvic floor. When born it was in a state of *asphyxia livida*, but cried and breathed nicely after a little blood was squeezed from the cut end of the cord, and the dorsum rubbed, the head, in the meantime, being held dependent. The child subsequently did well, having, however, a

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hoarseness of the cry, which has not disappeared. The mother also did well ultimately, although she suffered from fever for some days. This case was of exceeding interest to me, as I had never before witnessed the full physiological effect of ergot on the parturient uterus. At this time such cases are seldom seen, and it is on this account that I have reported this one to the Society. I hope it may prove interesting, at least to the younger members, and perhaps elicit discussion as to the true place of ergot in the therapeutics of obstetrics.

Dr. LONGAKER had only seen the action of ergot on the parturient effort in the hands of midwives, and then always with disastrous results. The character of the pains was as described by the reader of the paper, and when given in any large quantity, the child was always still-born. From the spasmodic condition of the uterus, the delivery of the placenta had been difficult in several cases. In one case an anæsthetic was required. The midwives always use powdered ergot. The only place for ergot was after labor was completed.

Dr. VOGLER had used ergot freely, particularly where there was inertia, where the pains are irregular, and in hysterical women, where we cannot get them to regulate the pains. He had not had any of the difficulties spoken of. It was a common habit of midwives to use it freely. When properly used, particularly after the first stage, it is safe and of value. He always used Squibbs' ergot.

Dr. HOFFMAN would ask those gentlemen who were connected with large lying-in hospitals, whether or not they found it necessary to use ergot after delivery. In his own practice he did not use it at all, and believed that we could get along as well without it as with it.

Dr. J. PRICE simply continued the use of ergot at the Preston Retreat, which Dr. Goodell had used before him. At the termination of the third stage of labor, the patient received a drachm of ergot. If the third stage of labor is a complete one, he hardly thought that ergot was needed. He had known it to produce nausea in sensitive, irritable women.

Dr. HIRST followed the same practice as Dr. Price. There is one use of ergot he had learned in Berlin. In cases where post-partum hæmorrhage was feared, it is customary there to give a syringe full of ergot hypodermically when the head is delivered. By the time that labor is completed, the action of ergot will be manifested.

Dr. J. PRICE said that in the cities we knew nothing of the disastrous results of the abuse of ergot. He had recently seen, in a mining town in the State, some frightful mutilations of the soft parts. He saw there more in one day than he had ever seen in the city of these bad tears.

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On inquiry he found that it was a common custom to use ergot in the first stages of labor.

Dr. BALDY thought that medical men were often tempted to overdose their patients, and that the use of ergot was a case in point. Early in his practice he had used ergot after the third stage, simply because he had been so taught. He found his patients complaining severely of after-pains, and so was led to stop it. He had not since then seen a case which required its use.

Dr. NOBLE was in the habit of giving ergot after labor was completed. He continued its use for some little time afterwards, not to produce after-pains, as happened to Dr. Baldy, but to prevent them, and had often saved himself the inconvenience of a second visit by so doing.

Dr. W. H. PARISH. — *Compression with the forceps of the cord when it is around the neck of the child.*

He believed that this occurred oftener than was supposed. During the last few years, in cases of still-birth, where the cord was around the neck, he had tried to ascertain if this had been the cause of death. In two instances he had established to his own and others' satisfaction that this was the cause of death. In the first instance the child had been delivered five times previously, with four still-born children. The child was not very large and the delivery was an easy one, without any especial compression with the forceps. He was surprised to find the child was dead and could not be resuscitated. As the head was about being delivered, he removed the forceps and took the cord from around the neck. He afterwards replaced the cord and reapplied the forceps, when it could be seen where the tip of the blades had compressed the cord. In the second case the child was small and the pelvis roomy. The only cause of delay was inertia. The cord was again replaced around the neck and the forceps applied. It could then be seen where the cord had been compressed between one blade and the mastoid process. There are some forceps more likely to produce this compression than are others. Where the tips of the blades closely approximate each other, and where the blades are long, compression of the cord is more likely to be produced. This objection applied to such forceps as those of Wallace, Davis, Hodge, Farnier, and similar instruments. Compression is less likely to occur with forceps like Simpson's, where the space between the tips is greater. Compression of the cord would be more apt to occur if one blade was applied at any point behind the ear. It is also apparent that with a small head the cord will be more readily compressed, if about the neck. If the forceps are applied after the head is in the pelvis, and flexion has taken place, and the long axis of the forceps coincides with the occipito-meatal

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diameter of the head, the cord is safe. If the forceps are applied early in labor, there is more chance of compressing the cord than if we wait until the head is in the pelvis. It will also be noticed that if the forceps be not applied to the sides of the head, even after flexion, there is danger of compressing the cord. How many deaths occur in this way we do not know, as the forceps are usually taken off and the cord removed from the neck before delivery; unless the cord is replaced and the forceps reapplied, there will be nothing to indicate the true cause of death.

Dr. G. E. SHOEMAKER.—*Tubercular peritonitis.*

Woman, age, 23. Complained chiefly of pressure symptoms from ascites. Probable diagnosis of tubercular peritonitis made before operation, which was undertaken for this condition. Nodules felt in peritonæum of recto-uterine pouch, by the rectum. Short incision; flushing with boiled water; glass drainage for two days. Prompt recovery from operation. Patient considers herself entirely well four months afterwards, but some fluid has reaccumulated. As an aid in the difficult diagnosis, the importance of rectal examination of the peritonæum was pointed out, though it may not separate papilloma and malignant disease of the peritonæum from tubercular. The writer has collected thirty-five genuine American cases, not all reported. Of these, six died immediately after the operation, and probably in consequence of it,—a mortality of seventeen per cent. as against one of not quite seven per cent. in eighty-eight non-malignant cases of exploratory laparotomy selected from those collected by Dr. Baldy as having no disease of the peritonæum. Kümmel reports thirty-nine European cases with two deaths from the operation (elsewhere reported as six); while Fehling has collected twenty-nine cases with six deaths, probably the same cases as those referred to by Kümmel, with a different interpretation of the deaths. Only eleven of the writer's thirty-five cases are known to have remained well more than six months. He refers to the varieties of the disease as influencing prognosis, and also to the theories as to cause of cures. He reaches several conclusions; among others, that the best treatment is laparotomy, with boiled-water flushing, and drainage; no medication of the cavity; also that the most that can be looked for in more than one-half the cases is temporary improvement; but that this is usually decided, and far outweighs the risk of incision.

Dr. J. M. BALDY was rather surprised that the speaker should have come to the conclusion that exploratory incision in tubercular peritonitis was more fatal than in other forms of disease. Some time ago, in examining the records, he had found seventeen cases with but one death, and that in no way due to the operation. The double pneumonia case mentioned might safely be excluded also. Without excluding just such

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cases, the mortality in exploratory laparotomy, for any and all causes, had arisen to over sixteen per cent. in a list of one hundred and fifty-four cases he had collected more than a year ago. Certainly it is not fair to attribute such deaths to the operation. For instance, one case had died from a piece of gut getting into the incision and becoming gangrenous.

Dr. SHOEMAKER. — Dr. Baldy did not collect all the cases of death for America. If we analyze our cases too closely we should get statistics which would not be fair to the patient.

J. M. BALDY,
Secretary.

PROGRESS IN GYNÆCOLOGY AND OBSTETRICS.

H. P. NOTTAGE, M.D.

Hegar's Sign of Pregnancy. — The changes that take place in the size, shape, and consistency of the body of the uterus during the first three months of pregnancy are among the most important that we have, and are familiar to every obstetrician.

Hegar has added to these well-known signs another, which consists in the marked softening and thinning of that portion of the body of the uterus that is immediately above the cervix. To determine this and to facilitate examination the rectum is distended with water. Depress the uterus with one hand over the abdomen and pass the index-finger of the other hand into the rectum, up through the third sphincter, and press the finger-tip against the posterior wall of the uterus immediately above the utero-sacral ligaments. Pass the thumb of the same hand into the vagina and bring it in contact with the anterior wall of the uterus just above the cervix. The intervening tissues may, in most cases, during the last half of the second month, be compressed by the grip of the thumb and finger almost to the thinness of a visiting-card. This compressibility of the lower uterine segment is Hegar's sign.

Maternal Impressions. — Mrs. M., a young farmer's wife, was kicked by a cow that she was milking. Her upper lip was cut entirely through, and one upper incisor tooth was loosened. Six months after she was delivered of a female child with hare-lip. Mrs. S., a farmer's wife, mother of two healthy children, went into the fields after berries. One shoe — the right one — was run down at the heel, so that she walked all day on the outside of her foot, and subsequently had a sprained ankle. Eight months after she gave birth to a female child with club-foot

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(*talipes valgus*) on the right side. A farmer's wife went to a spring for water very early in the morning. A huge bull-frog, which lived in that spring, had been on a nocturnal excursion and was returning home. He made his last jump for the spring, but, instead, landed in the woman's lap. She ran screaming to the house, and remained in an hysterical condition for hours afterward. Nearly nine months after that she was delivered of a male child that had a strong resemblance to a frog. His arms stand out from the body, and his legs are flexed at the hip and knee; his head is turned back on his shoulders, and his eyes are bulging. He walks partly erect, with the aid of two canes. Mentally, he is quite intelligent. — *Med. Record*, March 16, 1889.

In a question that is *sub judice* as this is, it is not well for any one to assert (J. O. L. in "Med. Age," March 11) that "it is as utterly impossible for a mother to mark her child in utero as it is for the fowl to mark the young that is in the eggs under her." This subject has had considerable mention in medical journals lately, and now it would be well for some one to prepare a long list of cases where mental impressions have failed to mark the child in utero, and to find out, if possible, what part, if any, the father has in causing deformities, etc.

In a review of the progress in the application of electricity to gynæcological cases, Dr. J. R. Buist, "Am. Jour. Obstet.," March, 1889, concludes: —

1st. That the higher knowledge of the laws and forms of electric force of modern times, as well as the superior methods of application in gynæcological practice, puts the employment of electricity on a broader scientific basis than before, and gives promise of a still more extended usefulness.

2d. That in these days, when we are compelled to be guided by the practice of experts and specialists in regard to given procedures, we cannot admit that either faradic or galvanic currents will supplant completely and in every case the surgical methods in use, guarded by modern asepsis and clean linen.

3d. That the practice of electro-therapeutics requires, not only an extended special study beyond the usual curriculum of the schools, but that the outfit being quite expensive, and the time consumed so great that several assistants are required in a moderately large practice, the result will be that only specialists in large cities will make a success.

4th. That as a remedial agent in diseases of women it is not to be ridiculed, but is one of great value in certain cases and in expert hands, and is destined to accomplish for the relief of female suffering what neither medicine nor surgery can in certain cases.

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Lastly. It is evident that the professional minds of to-day are not agreed on the value of electro-therapeutics. The majority of gynæcologists even ignore this method, while in the hands of a comparatively few it is a favorite means of cure. Altogether, we think it has, in the last two years, gained much favor and made many converts to its ranks.

BOXALL. — SCARLATINA DURING PREGNANCY AND THE PUERPERIUM. — *El Progreso Ginecol. y Pediatra, Nov. 10, 1888 (Abstracted).*

I. *Predisposition of the Pregnant and Parturient Woman to Scarlatinal Infection and Duration of the Period of Incubation.* — Considering the infrequency of scarlatina during pregnancy, and its appearance during the first few days of the puerperium, if at all, the author believes that cases should be divided into two classes: —

a. Those in which infection has been received before parturition and during or after that act.

b. Those in which infection is produced only at the beginning of parturition.

From a study of sixteen cases the following deductions were made: —

1. With respect to the period in which the disease occurred: —

a. Scarlatina occurs almost invariably during the first week of the puerperium, its appearance at a subsequent period being very rare.

b. In exceptional cases scarlatina may appear during pregnancy shortly before parturition begins.

2. With regard to predisposition on the part of the pregnant and parturient woman to scarlatinal infection, and the reciprocal influence which exists between it and parturition: —

a. A woman who is exposed to the disease may be infected during pregnancy, during parturition, or subsequent to it.

b. Predisposition to infection is the greater just after parturition and during the first week of the puerperium.

c. If infection occurs during or just after parturition, the period of incubation will be very short.

d. These considerations will serve to explain the frequency of scarlatina during the first week of the puerperium, without the necessity of referring to a disease contracted during pregnancy, the period of incubation of which would be greater than normal.

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II. *Relations of Scarlatina to Menstruation.* — There is an apparent analogy with reference to the appearance of scarlatina between parturition and the menstrual periods, the following conclusions being offered: —

1. Predisposition to the infection is greater just before, during, or immediately after the menstrual period.

2. Infection which occurs shortly before the menstrual period will accelerate the appearance of the flow.

3. If infection occurs during or just after a menstrual period the latter will be shortened.

III. *Clinical Course of Scarlatina during Pregnancy and during the Puerperal Period: —*

1. During pregnancy the pharyngeal symptoms are not modified, but if the disease occur after parturition angina is infrequent.

2. Should scarlatina occur after parturition, subjective angina may not be present at first, and even in the later stages it rarely gives much trouble. Signs of a mild inflammatory process, which are usually absent at the beginning of the disease, may appear during the second or third week of the attack. The cervical glands may be obstructed with or without apparent changes in the pharynx.

IV. *Effect of the Scarlatinal Poison upon the Course of Parturition: —*

1. Should parturition occur during the period of incubation, it will follow its ordinary course, but the uterine pains will have a greater influence than usual upon the mental condition of the patient. If inertia is present, it will be during the last period of parturition.

2. Should parturition occur during an attack of scarlatina, the pains will be weaker than normal, inertia will be present, and there may be a predisposition to hæmorrhage.

V. *Effect of the Scarlatinal Poison upon the Puerperium: —*

1. Involution of the uterus will be retarded slightly, if at all, by it.

2. The slight and transient sensitiveness at the fundus of the uterus, which may appear at the beginning of the attack, is usually due to an increase in the sensitiveness of the pelvic organs, and rarely indicates pelvic inflammation.

3. With antiseptic precautions, ruptures of tissue heal with great facility, and the odor of the lochia is almost always normal.

4. But in some cases the odor is especially disagreeable.

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5. The lochia may come in a natural manner and disappear at the proper time; but in some cases the discharge is bright red and abundant at the beginning of the attack.

6. The mammary secretion is almost always diminished, and may cease altogether on account of the scarlatina.

7. Nursing infants are very apt to contract scarlatina, probably from simple contact with the mother.

8. Should scarlatina appear spontaneously during pregnancy, the *fœtus in utero* may or may not be affected.

9. If the mother is infected just before parturition, the fœtus is usually born uninfected, but the disease may be contracted after birth.

A. F. C.

STERILITY FROM INAPTITUDE FOR OVULATION AND INCUBATION. — *Vulliet, Jour. de Méd., Dec. 23, 1888.*

INAPTITUDE for ovulation may be relative or absolute. It is absolute if the ovaries are absent or have undergone such organic modifications or morbid alterations that they are deprived of their functional activity. Amenorrhœa is the evidence of this condition. It is a very frequent symptom, and though there are rare examples in which pregnancy has occurred in such cases, amenorrhœa may be considered in general as an absolute cause of sterility. It may be due to absence of the ovaries, to a rudimentary development of the entire utero-ovarian apparatus, to disease of the ovaries and tubes, to delay in the development of the menstrual function, or to premature disappearance of the same, to excesses, or to debility, or to some constitutional condition such as persistent anorexia, tuberculosis, etc. Absence of the ovaries is a rare deformity, and usually coincides with want of development in the entire genital apparatus. A diagnosis of this condition is best made by anæsthetizing the patient in the dorsal position, and exploring by the aid of a sound in the bladder and one or two fingers in the rectum. Rudimentary development of the ovaries is very difficult of diagnosis during life. One can often suspect it in connection with an undeveloped uterus and general deficiency of physical vigor. Arrested development of the ovaries does not always lead to absolute amenorrhœa; there are sometimes bloody discharges at irregular intervals, with menstrual molimina. Such cases are not insusceptible of successful treatment by some form of dilatation, continued as long as is necessary, or by electricity. If amenorrhœa is due to tumors, cancer, or tuberculosis of the ovaries, the sterility is incurable if both organs are

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affected at the same time. If amenorrhœa is due to delay in the establishment of the menstrual function, it may generally be considered that there is some morbid or congenital condition which causes it if it is delayed beyond the eighteenth year, and such a cause should be carefully sought. If amenorrhœa occurs between the thirty-fifth and fortieth years in a woman who has never conceived, it will in most cases be permanent. Treatment for sterility in such cases will usually be unsuccessful. Among the disorders of nutrition which most frequently cause sterility is obesity. Menstruation with such women is usually scanty, though the genital organs and the sexual appetite may be well developed. The treatment in such cases may be successful, but it is usually long and tedious. It consists in measures for overcoming obesity, such as massage of the abdominal walls, massage of the uterus, and other measures for improving the activity and the nutrition of the uterine muscle. If sterility is due to constitutional disease, such as the scrofulous, the tuberculous, or the cancerous diathesis, conception is not impossible, though these diseases certainly exercise an unfavorable influence upon ovulation.

A. F. C.

OPERATIVE STEPS IN ARTIFICIAL DELIVERY. — *Budin*, *Jour. de Méd., Jan. 6, 1889.*

THE operative steps in artificial delivery will vary in different cases. When the hæmorrhage has been considerable, and there is a consequent separation of the membranes to a greater or less extent, the operation is usually an easy one, the placenta being readily removed, and the uterus, which is in a state of inertia, rarely offering any obstacles. If the hæmorrhage is so severe that the introduction of the hand into the uterus will be required, the first thing of importance is to see that the hand is absolutely clean. The umbilical cord will serve as a useful guide in this step, for the cervix and lower segment of the uterus will be so soft and distorted at this stage that anything like the natural feel or outline of the parts will have disappeared. The author prefers the introduction of the right hand, the dorsal aspect of which has first been greased. It should be passed, preferably, between the uterus and the membranes; and if these have been partly separated by the hæmorrhage, it will not usually be difficult to get behind them and peel them off as one would cut a sheet of paper. If the placenta is inserted at the fundus of the uterus, the hand may be passed along its lower surface, the extremities of the fingers detaching as they go. If the placenta is completely separated, there need

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be no haste about removing it, but the hand being within the organ, one should allow its contractions to force it down and out. There is no fear of hæmorrhage as long as the uterus and vagina are thus tamponned. If the placenta is withdrawn from the uterus too quickly the danger from hæmorrhage will be increased. No portion of the placenta should be left behind, and after all has been removed an intra-uterine injection should be given with a hot antiseptic solution. If the adhesions of the placenta are incomplete, it will be necessary to pass through the membranes. Having reached the border of the placenta, the membranes are to be torn with the finger. If the hand cannot reach this level, one must pass through the placenta, separating it all around at the point where the hand enters. The hand having penetrated to the space between the placenta and the uterine walls, the tissues may then be separated. If the placental adhesions are very close, then one must dispose of as many of the cotyledons as possible, separating them as freely as the adhesions will admit, and leaving as little *débris* as possible. If it is necessary to determine in a given case whether the placenta is still within the uterus, the patient must first be anæsthetized; the hand is then introduced, and if the surface of the uterus feels smooth, there are still membranes there. One must then try to feel the fœtal surface of the placenta, which has a granular condition. If loose membranes are felt, the placenta will usually be found in the uterus, and one should try to get between the uterine walls and the membranes. If the uterus has contracted, chloroform should be given; one hand should steady the uterus by pressing upon the fundus through the abdomen, and with the other the resisting part should be dilated. If the placenta is found adherent, it should be separated. Should contractions come on, the hand must be flattened out until they pass away. Dilatation may be made with the hand or with Barnes' dilators, and there are some cases in which both means will fail. It is usually easy to distinguish the placenta from the uterine walls, for placental tissue is soft and compressible and the uterine wall offers resistance. But it must be remembered that where there are adhesions, furrows are formed in the uterine tissue which may be mistaken for the placenta. It is sometimes very difficult to detach the placenta, the uterine wall being so thin at the area of adhesion that it may be very easily perforated. If the uterus cannot be penetrated, one must wait. In rare cases the uterus expels the secundines spontaneously after some time. In other cases, after waiting two or three days, dilatation becomes possible. If the opening is too small to admit the hand, antiseptic intra-uterine injections must be made to combat the purulent infection.

A. F. C.

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HOSPITAL REPORT.

MURDOCK FREE SURGICAL HOSPITAL FOR WOMEN.

THE following is an especially interesting and unique case, and there seems to be no published record of a similar case: —

Patient is a young lady, single, and 23 years of age. The beginning of her medical history was two and a half years ago, previous to which there is no record of her case. Her maternal grandmother died of cancer. Her paternal grandfather had supposed cancers removed, but did not die of cancer. The father is healthy, and is about 78 years of age. The mother, about 55 years of age, is very poorly, suffering from an unknown trouble. A paternal uncle and aunt died of cancer. Some cousins have had supposed cancers removed. Our patient experienced the beginning of her present trouble in May, 1886, when a tumor appeared on the jaw of the left side. Poulticing was ordered in the following October, and continued until March, 1887. An opening was then made, and "quite a little" matter discharged, the discharge continuing until the following June. In September, 1887, she noticed a bunch on the jaw of the right side, which was very painful. In December, 1887, she gave up work, from pain in the right arm, and soon after noticed a bunch growing in the right axilla. As the growth in the axilla increased, the tumor of the jaw decreased in size. As the axillary mass gradually developed, there was more pain in the arm, and the arm began to increase in size. During this period morphine, cannabis indica, etc., had to be used quite freely; but the results as far as quieting the pain was concerned were not considered satisfactory, as large doses did not seem to give sleep. During the first part of the treatment internal medication was depended upon, but was not at all successful for benefiting the disease. In the fall of 1888 she came under the care of Dr. Underhill, who called Dr. Irish in consultation. Dr. Irish referred her to the Murdock Hospital, where she entered Oct. 18, 1888. The operation was performed by Dr. Burt, on the morning of entrance and the examination made while under ether. No note had been made as to whether there was any pulse in the right radial artery, but there was evidently great pressure on the axillary artery, and the right arm was about twice the size of the left as a consequence of this pressure. Quite a hard growth appeared, occupying the whole axilla, and extending up under the clavicle. It seemed not unlike an osteo-sarcoma. An incision was made from the axilla to the clavicle, directly through the pectoral muscles. A cheesy, tuberculous-looking mass appeared, occupying the

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entire space, and not encapsulated. It was so degenerated that it was easily removed piecemeal. In it appeared a bifurcated bit of tissue about one and a half inches long, which was evidently the degenerated axillary artery. No hæmorrhage followed. The disease was removed to its whole extent, ending under the clavicle. Just at the end a great gush of blood came from the torn subclavian artery. This was *unavoidable*, and was not an *unfortunate accident*, *because a hæmorrhage was a certainty*, *and a secondary* hæmorrhage would have been *necessarily fatal*. It was completely stopped by fastening to the artery one of the Wells curved pressure-clamps. The end of the clamp rested on the middle of the humerus. A quantity of gauze was packed in, and the wound sutured down to the clamp, about three inches in length. Needless to say the patient almost died on the table from hæmorrhage, but rallied well, contrary to the expectation of the physicians present. The blood renewed itself rapidly, liquid-food injections and suppositories being used freely. The arm and hand did not lose sensation, nor were they ever cold after the operation. It seemed as though a perfect collateral circulation had been well established, and that the pressure and disease had stopped the circulation through the axillary artery. The intense pain which could not be controlled by opiates was entirely relieved by the operation. The last of the gauze was removed only after two weeks' time, when there was quite a free discharge of pus. The clamp was removed November 4, without any pulling, and it had evidently been free for several days at least. She was discharged November 29. There was only slight discharge of pus, and the tube was one and a half inches long. It then seemed as if there would be no return of the disease. The microscopic examination of the growth was not entirely satisfactory. The tissues were very much degenerated, would not stain well, and could not be examined as well as could be wished; yet the opinion was that it was a round-cell sarcoma. The size of the arm was diminished, and the loss of power, great at first, gradually gained to a considerable extent. At the same time, the mass on the jaw seemed to have diminished in size, and to have become softer. There was a gain of twenty pounds in weight. She remained at home till December 24, when she was readmitted, as there was thought to be pus present. No return of the disease could be discovered. The arm was painful and swollen, probably from deficient blood-supply or loss of nerve-supply.

The arm improved under massage and electricity. January 3, the adhesions of the arm and fingers were broken up under ether, and an operation was performed on the gland of the jaw. Considerable pus and cheesy material came away. Contents all removed. This was the submaxillary

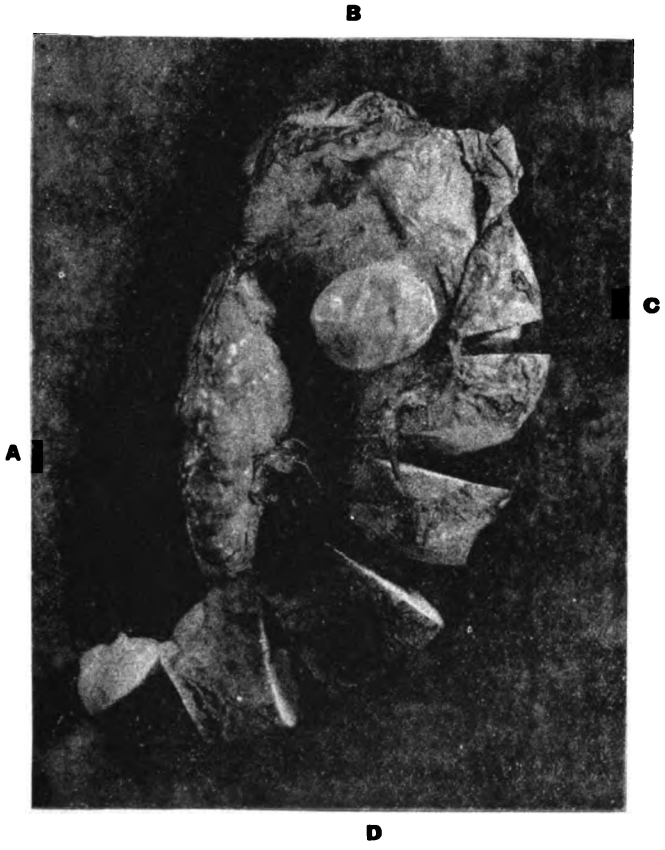
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gland, as shown from a salivary fistula resulting, which was healed rapidly. After this time she was attended at her residence. March 5, a discharge at the point of the old drainage-tube was noticed. The tube was replaced and the cavity was douched daily. After this the condition progressed very favorably until March 15, when she had a sudden chill and fever which prostrated her, and she soon had symptoms of pressure in the thorax. Examination revealed fluid in the pleural cavity, and a quart of serum was drawn off, causing a very rapid amelioration of her symptoms. This condition lasted only a few days, and she developed similar symptoms yet more serious, and associated with high temperature and considerable delirium. She died March 30. The autopsy did not show a return of any mass below the clavicle. The cavity left at the operation had not filled with tissue apparently at all; it had reopened throughout its whole extent, and the whole surface was covered with a thin layer of pus. There was no axillary artery, but in a mass of tissue, mostly muscular at that location, the most prominent structure was what was evidently the median nerve, though it was perfectly enormous in size, at least two to four times the normal; the rest of the mass was white and cheesy, infiltrating the spaces between the muscles; it was apparently malignant. On opening the chest, the pleural cavity was found to contain about twenty ounces of pus. There seemed to be a direct communication between the pleural cavity and that from which the tumor had been removed, at the point where the subclavian artery had been severed. The cause of death was empyema, associated with general septic infection. No tubercles in the lungs.

DR. F. L. BURT.

THE paper heretofore used in this journal was colored slightly, with the intention of making it less fatiguing than white paper to the eyes of the readers. As it is found, however, that the paper turns darker with time, thus injuring the appearance of the bound volume, an uncolored paper has been substituted for it in this number, which commences the second half of Volume II. The new paper is also heavier and finer than that formerly used, and it is hoped that it will prove more agreeable to the readers of the ANNALS, although it will be less soft to the eyes.

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MYXO-SARCOMA OF FALLOPIAN TUBE.

[Natural Size.]

Case of J. E. JANVRIN, M.D.

(Pages 357–360.)

A — Ovary. **B, C, D** — Fallopian tube, enlarged and thickened by the malignant disease, as seen at the points of incision. Opposite **C** is a small cyst.

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LARGE SARCOMA OF MAMMA.

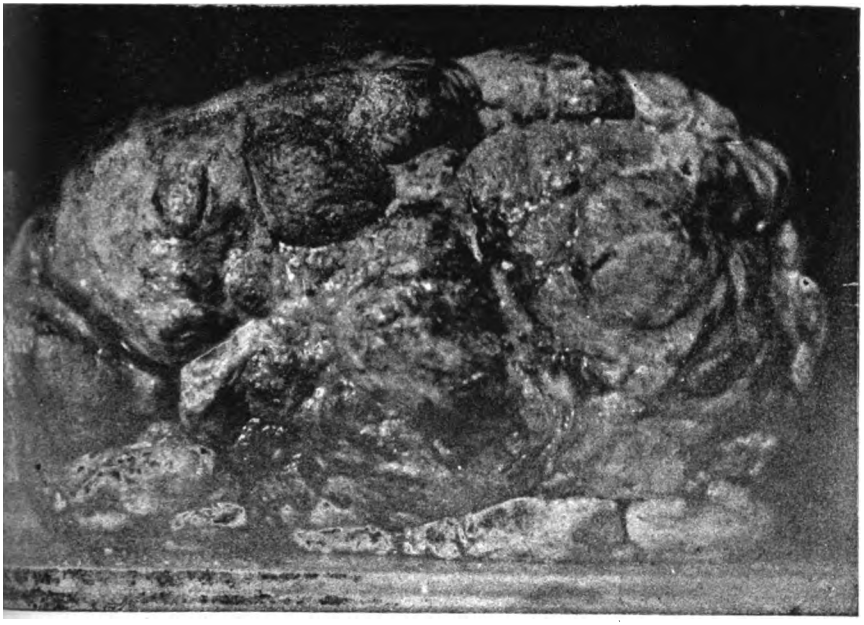
(See page 402.)

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SARCOMA OF MAMMA.

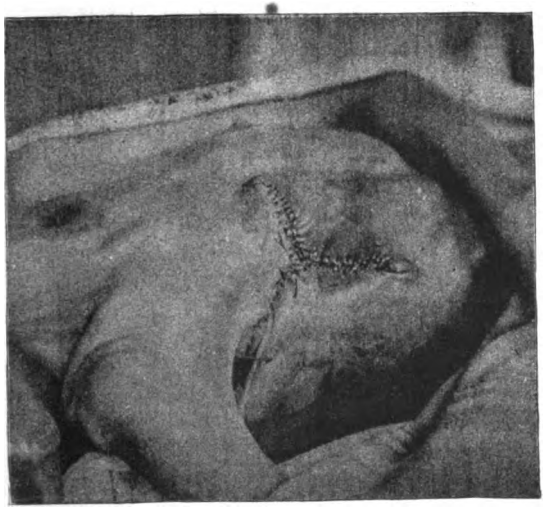
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Ulcerated surface.

(See page 401.)

Fig. 1.



Union of skin in stellate figure.

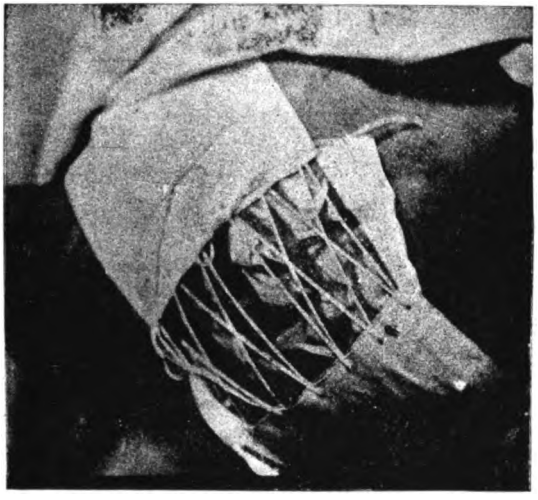
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SARCOMA OF MAMMA.

Fig. 2.



Application of laced adhesive plasters to relieve tension.
(See page 402.)

Fig. 3.



Small defect in skin healing by grafts.
(See page 402.)

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ANNALS

OF

GYNÆCOLOGY.

VOL. II. MAY, 1889. NO. 8.

ORIGINAL COMMUNICATIONS.

A CASE OF MYXO-SARCOMA OF FALLOPIAN TUBE.[1]

BY J. E. JANVRIN, M.D.,

Gynæcologist New York Skin and Cancer Hospital, Consulting Surgeon St. Elizabeth's Hospital, etc.

THE accompanying specimen is presented, and the history of the case narrated, on account of the rarity of the specimen, and the unexpected and unfortunate termination of the case after laparotomy.

Mrs. B., aged 36 years. Married about fifteen years; no children. Had had an attack of pelvic peritonitis twelve years since. In the mean time, until October, 1888, had generally been in fair health.

Early in October, 1888, I was called to see her, and found her suffering from an attack of pelvic peritonitis.

She informed me that she had been under treatment at the hands of a female homœopathic practitioner for some weeks, and that the treatment used had been "ergot injected into a uterine fibroid, and vaginal tamponing with cotton saturated with glycerine."

I had been sent for simply in an emergency, her attendant being out of town, and simply to do something to relieve the urgent symptoms.

Failing to find any evidence of the existence of a fibroid, but recognizing that the right Fallopian tube was considerably enlarged, and that quite an amount of pelvic peritonitis existed, I made use of the usual

[1] Read before the Section on Obstetrics and Gynæcology, New York Academy of Medicine, March 28, 1889.

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remedies for this condition, and in about forty-eight hours the symptoms were thoroughly relieved. On leaving the case I recommended that the treatment which had been pursued prior to my seeing her be greatly modified, as there were no indications for such heroic measures, especially the injections of ergot into the supposed fibroid.

Some three months later, Jan. 7, 1889, I was again called to see the case. I learned that in the mean time the use of the glycerine tampons had been used constantly; the injections of the ergot had however been dispensed with up to Jan. 1, 1889.

At that date the "fibroid" was pronounced cured, and the patient had been told that no further treatment was necessary.

On examination, the right Fallopian tube was found greatly enlarged,— fully four inches or more in length, and apparently fully half as large in diameter,— extremely tender, slightly movable, and very tense. During the preceding week the patient had suffered intensely, and had controlled it somewhat by suppositories of morphine. In fact, during the entire three months just passed, there had been a good deal of pain every day, and the use of morphine suppositories had been constant. There being quite an amount of pelvic peritonitis present, measures to relieve it were at once adopted. Any attempt to diminish the amount of morphine, however, was quickly checked by the recurrences of intense pain which came on every day, either during the afternoon or early evening. My diagnosis was pyosalpinx associated with pelvic peritonitis, and with the tube bound down by adhesions and probably impervious, and becoming more and more distended by the pus accumulation. I advised its removal at as early a date as possible. The patient was seen in consultation by Drs. Polk and Lusk, and the diagnosis confirmed, the examination being made by each independently of the other, and the removal of the tube was advised. Laparotomy was performed January 30, the operation being somewhat difficult on account of the great depth of the pelvis and the strong adhesions.

Drs. Lusk, Peaslee, Currier, and Goffe assisted. The operation lasted over an hour, the greatest difficulty being met with in attempting to separate the tube and bring it up through the incision. There was trifling hæmorrhage, easily controlled by catgut ligatures. The pedicle was transfixed and ligated with silk, and then touched with pure carbolic acid and dropped back into the cavity, the peritonæum closed by catgut, and the abdominal walls by silk sutures. No drainage, the cavity being perfectly clean. The tube was quite firm and apparently solid, containing no fluid.

Patient reacted well, but within three hours complained of excruciating pain at the *pit of the stomach*. A few teaspoonfuls of hot water were

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given during the night. At 9 P.M. was obliged to give hypodermic of morphine to relieve pain. Bladder relieved by catheter twice during the night. Slept fairly well until morning. Temperature normal. Pain increasing, gave hypodermic at 9 A.M., 31st, and again at 2 P.M. 4.30 P.M., temperature 101½°, pulse 120. 6 P.M., temperature 103½°, pulse 120.

Antifebrin, grs. v, and frequent sponging of face and hands with ice-water.

10.30 P.M. Very restless and severe pain, located, as heretofore, at pit of stomach. Hypodermic of morphine and atropine. Rather restless until 2 A.M., February 1, then slept until 8 A.M., when she vomited slightly. Nutritive enemata of peptonized milk and whiskey, which had been given every six hours the preceding day, now ordered every three hours. Temperature had fallen to 100°. Enemata retained during the day, and temperature ranging from 99° to 100°.

9 P.M. Vomited quite freely, and with a pronounced fæcal odor. Very great thirst. Vomiting became frequent and decidedly stercoraceous. 10 P.M. gave Epsom salts, ʒi, combined with a Seidlitz powder. Drs. Lusk and Wylie saw patient at 11.30, with me, and concurred in the opinion that *the* thing to do was, if possible, to produce some action of the bowels.

Rectal tube introduced up to sigmoid flexure, and hot, stimulating enemata injected.

1 A.M., February 2. Vomiting returned with renewed violence. Repeated the Seidlitz powder and salts, and gave enemata of warm water and whiskey, also whiskey and digitalis hypodermically.

At 5 A.M. all efforts to control the vomiting proving futile, and thinking that there might possibly be some septic material in the abdominal cavity, Dr. Wylie administered chloroform, and I removed the two lower sutures and gently opened the lower extremity of the incision, the patient having been placed upon the right side. There was absolutely no evidence of septic fluid or any septic condition present, and the edges were closely approximated again and the antiseptic dressing reapplied. Patient failed rapidly during the day, the stercoraceous vomiting continuing, and death ensued at 4 P.M.

Examination showed no evidence of peritonitis, septicæmia, or occlusion of the intestines. The continuous pain at the pit of the stomach, and the utter inability to retain anything, even a teaspoonful of water, after the first twenty-four hours, together with the stercoraceous vomiting, which began forty-eight hours after the operation, showed a condition of total paralysis of the alimentary canal. This condition of paralysis of assimilation I have noticed in former years, before antiseptic surgery was known, after the removal of large ovarian tumors in which the operation

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was very prolonged. In this case, however, there was nothing in the operation itself to account for it, and the only reason for its existence, as far as I can see, was the condition of the patient, which condition had been brought about by the constant use of morphine for some months prior to the operation. The morphine habit had so paralyzed the functions of assimilation that all attempts at its resumption proved futile.

This case is the first in my own practice which has succumbed in the manner here mentioned. I have, however, seen the same condition, during the past few years, in consultation in several cases in which the operation has been done with every antiseptic precaution, yet in which the patients have been carried off in exactly the same manner, there being no septicæmia, no peritonitis, and no kink or occlusion of the intestines.

The result of the microscopic examination of the specimen shows that it is a myxo-sarcoma — a very rare affection of the Fallopian tube.

Coe (American System of Gynæcology, vol. ii. p. 894) says: "There is no authentic case of sarcoma of the Fallopian tube on record." He further says: "Sänger reports a case of so-called primary sarcoma of the tubes (Centr. für Gyn. 37, 1886), which he (Sänger) affirms is the only one on record." Coe doubts the correctness of the diagnosis.

The report of the examination of the specimen made by Dr. Wm. H. Porter, Pathologist of the Post-Graduate School of Medicine, after going into a very careful and detailed description, closes as follows: "The general histological construction of this newly developed tissue would argue against its being classed as an inflammatory growth, but would place it among the mixed connective-tissue growths. Owing to the large variety of histological elements found, it is impossible to give it any single name which will in any adequate manner express the condition. It may well be classed under one of two headings, — either as a composite fibro-sarcoma, or a composite myxo-sarcoma, the latter being the more accurate of the two." (Plate I.)

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GENERAL PURULENT PERITONITIS — OPERATION — RECOVERY.

BY MARIE B. WERNER, M.D., OF PHILADELPHIA.

A. S., colored; æt. 29; married six years; miscarriage four years ago; was told she had a fibroid tumor of the uterus; paid no attention to it; menstruation painless, not profuse. During the summer, 1888, working as head cook, while lifting coal and wood, etc., experienced pain in right side, which gradually increased until it became decidedly of a beating and throbbing character. About this time menstruation became irregular and profuse, with excessive pain. Rest at home improved her somewhat. About middle of February, 1889, suddenly experienced sharp pains radiating from right inguinal region over the entire abdomen.

March 5, evening, found with a temperature of 101°, pulse 100. History of constipation, vomiting. Examination revealed pelvis filled with a fibrous mass, pushed down posteriorly, altering the axis of uterus so that the os was reached with great difficulty, pushed tightly against the pubic arch. Pressure in right cul-de-sac gave great pain. Abdominal palpation showed a hard tumor extending to umbilicus. Salines ordered, and gave some relief.

Evening of March 6, however, temperature, 104°, pulse 130; decided to have consultation with Dr. J. Price, and operate, if consent could be obtained.

March 7. Opened abdomen, found an immense pus cavity on right side, and septic peritonitis; washed out and drained. Peculiarities were that the tumor had drawn the bladder up almost to a level with the umbilicus and was adherent to the tumor, making it difficult to enter the peritoneal cavity; an accidental cut into the bladder served as an aid for determining its margin with the sound; the incision was closed with silk sutures. The drainage consisted of cotton ropes charged with iodoform. Abdominal wound was closed with two sutures above and below, and patient put back to bed. Nine P.M., temperature 100°, pulse 135. General appearances markedly improved. During night passed water, no inconvenience. An attempt to remove cotton tampons to replace with rubber drains unsuccessful. Granulations imbedded in cotton.

2d day. Temperature normal, pulse still rapid, but stronger. Patient visibly gaining strength.

4th day. Some rise in temperature; cotton still fast.

6th day. Temperature 101°, pulse 120. Cotton replaced by drains.

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Escape of about four ounces fetid pus. Washed with rubber drain and catheter (English). Temperature fell to 99° in an hour; pulse same, due perhaps to mitral murmur.

7th day. In spite of precautions, appearances of a small bed-sore on end of spine; used dry dressing.

8th day. Marked induration, and extreme pain around buttocks. Ordered dry heat.

10th day. Induration and pain increased. Poulticed with flaxseed and charcoal; resulted in a discharge of fetid pus during night.

11th day. Washing and probing showed an abscess cavity in which I could sweep the probe from two and a half to three inches around. Continued poultices.

14th day. Slough in centre separated. Replaced poultices with dry dressing.

Summary. — Section done to save life, not begun for an ideal operation. Steps of procedure: Tumor not to be removed, pus sacs to be emptied, irrigation, and general drainage. The above steps were complete and rapid in every particular; three large cotton ropes were placed. No rubber tubes were at hand. The presence of the tumor prevented the placing of glass drains. Universal adhesions were rapidly separated for two purposes, — irrigation and drainage. The patient was in collapse at time of operation, high temperature, rapid pulse, and general leakage. The abdomen was only partially closed. Four weeks after operation she was walking about her room, eating and sleeping well. Diagnosis, before operation: Suppurating appendicitis or ruptured right pyosalpinx, general purulent peritonitis. Hysterectomy or an ideal operation would have been murderous. Patient would have died on table.

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THE SCOPE OF THE CURETTE IN GYNÆCOLOGICAL AND OBSTETRICAL PRACTICE.

BY ANDREW F. CURRIER, M.D., OF NEW YORK.

IT is but a few years since it was determined that more or fewer of the so-called constitutional diseases have a local origin, and that they are susceptible of successful treatment by local means during this primary stage. This statement is verified by the many successes in the treatment of tuberculosis, scrofula, sarcoma, carcinoma, etc. This fact marks a great advance in surgical pathology and therapeutics. While the antiseptic principle lies at the foundation of the matter, there is no instrument which has been of greater utility in accomplishing this result than the curette. There is scarcely an epidermal, serous, or mucous surface appertaining to the interior or exterior of the body which is not susceptible to some form of disease in which the curette may be of service.

This paper discusses only its application to obstetrics and gynæcology, and the principle involved in its use as a cutting, bruising, or scraping instrument. No one who practises obstetrics and gynæcology can afford to be without some form of the instrument; it is as indispensable as the obstetric forceps or the speculum. Whether the instrument is of ancient origin is at present immaterial; Récamier is at least the modern inventor of the instrument and the operation for which it was designed. It was called by him a *sonde-curette* or a *gorgeret-curette*, and it was described by him in 1846 as a means for the treatment of "vegetating endometritis" (Ann. de Thérapeutique, August, 1846).

Boureau, whose article on the curette is the most exhaustive that has ever appeared (see Nouv. Arch. d'Obst. et de Gyn., March, April, May, June, 1888), divides its history into three periods, the first extending from 1846 to 1860, when it fell into practical disuse, at least in France; the second from 1860 to 1872, the period of obstruction and partial oblivion; and the third from 1872 to the present time, in which it was restored to popularity, which popularity continues. Most of its former opponents are either silent or have been convinced of its usefulness, and the danger now is that its too free use will lead one to forget that the uterus is still a most sensitive organ, which will not tolerate reckless or injudicious treatment. Vulliet has coined the suggestive word *curomania* for the rage which exists in certain quarters for curetting the uterus for all ills, real or imaginary, to which the uterus may be subject. As Boureau has said, curetting is intended only for chronic conditions, with the one exception

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of that acute condition in which portions of placenta or membranes have been retained after mature or premature parturition. Among the distinguished advocates of the curette may be mentioned Simon, Schrœder, Hegar, and Olshausen, in Germany; Simpson, Tait, Barnes, and Duncan, in England; Sims, Thomas, and Goodell, in America; Récamier, Lisfranc, Nélaton, and Doléris, in France; and others in Switzerland, Scandinavia, Denmark, Spain, Italy, and Russia. In introducing the curette, Récamier was compelled to face the antagonism of such men as Dubois, Velpeau, Aran, and Becquerel, while the instrument was opposed in Austria and Germany by Carl Braun, Scanzoni, Spiegelberg, Hildebrandt, and Bligel. The opposition in Great Britain was led by West, Churchill, Atthill, and Bennett, and in this country by Emmett. Terrillon advocated the use of the curette for cancer in 1855, and Simon in 1872, the latter modifying the Récamier instrument so that it became more effective, but also more dangerous. Sims attached great value to the instrument, and made useful modifications, but it was still a cutting instrument.

Lisfranc was the first to make use of a dull curette, in 1847, the general indication for its use being "bloody and white discharges." Thomas has given us the best modification of the dull curette, which is comparatively safe and useful, except in those forms of disease in which large quantities of tissue are to be scraped away. In France, no one has done more to revive the use of the curette and indicate the lines of its usefulness than Doléris, and it may be said that he has constituted the existing French school for the advocacy of the instrument. The curette has two functions, the diagnostic and the therapeutic, and it is difficult to say which is the more important and valuable. When used for diagnostic purposes it is but a prolonged index-finger, and its manipulation should be so gentle that no disturbance of existing conditions will be excited, at the same time that accurate information concerning those conditions is elicited. There are many cases in which it is difficult or impracticable to introduce the finger into the uterus for diagnostic purposes; there are very few in which the curette may not be so introduced. The indications for the therapeutic use of the curette are (1) hæmorrhage, (2) mucous or mucopurulent discharges, (3) sepsis, (4) pain. These may all be present in a single individual, or there may be but one of them. If inflammation is present and it is acute in character, it would be improper to use the curette. The chief indication is uterine hæmorrhage, excluding the *normal* hæmorrhages of menstruation and parturition. The latter are physiological when not exceeding a few drams or a few ounces, all other uterine hæmorrhages being pathological, and an indication of disease or violence. The hæmorrhage may proceed from

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(*a.*) A diseased mucous membrane.

(*b.*) Disease affecting the parenchyma of the uterus, especially from new-growths.

(*c.*) Disease of the uterine adnexa.

(*d.*) Disease of the pelvic peritonæum or cellular tissue.

(*e.*) Stasis from uterine displacements.

(*f.*) New-growths and adventitious tissue in the uterine canal.

The indication for curetting is not equally clear in all these conditions. Récamier recognized a condition of hyperplasia of the uterine mucous membrane, and it was for this condition that he devised the curette, the definite object being to arrest hæmorrhage. His many published cases show that he was remarkably successful with the instrument. Since Récamier's time, many others have studied this hæmorrhage-causing condition of the mucous membrane, variously recognizing it as a granular, an hyperplastic, a polypoid, or a fungoid condition. Among such investigators are Bischoff, Hegar, Olshausen, Simpson, Routh, and Savage. Hæmorrhage from the mucous membrane is very common in connection with malignant disease. The use of the curette is only palliative, but it brings great temporary relief from hæmorrhage and from the offensive discharges which characterize such processes. Hæmorrhage also arises when the uterine parenchyma is affected with either malignant or benign disease. The latter includes the entire class of fibroid growths, which become more troublesome and give rise to freer hæmorrhage as they encroach upon the mucous membrane, especially if located near the *os internum* in the area of greatest vascularity of the uterus. Curetting for such cases is very beneficial, but is also palliative. Hæmorrhage may be due to congestive and inflammatory conditions of the ovaries and Fallopian tubes, and curetting will be useless, unless the process extends to the uterine mucous membrane.

Uterine congestion and hæmorrhage may attend disease of the pelvic peritonæum and cellular tissue, the latter existing irrespective of disease in the tubes and ovaries. The accumulating evidence of the past few years has demonstrated with certainty, however, that disease in the tubes and ovaries is the source of pelvic disorder far more frequently than would have been admitted ten, or even five, years ago. For the acute forms of this disease curetting should not be performed; but in cases in which the mucous membrane is in a chronic degenerated condition, which frequently follows the acute disease, curetting will be efficient. Copious hæmorrhage frequently attends uterine displacements, especially posterior ones, and this is apt to be unusually troublesome during the menstrual epoch. A rational explanation for this would seem to be the stasis, which results in

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the uterine veins from mechanical obstruction, and this is one of many facts which gives importance and significance to displacements of the uterus. With continued engorgement will result hyper-nutrition of the uterine mucous membrane, and curetting will furnish a means for temporary relief. The radical cure must come only when the mechanical obstacles are removed. Uterine hæmorrhage may be due to uterine polypi or to the retention of fragments of placenta or decidua, and for the latter the relief which may be obtained by the use of the curette is prompt and satisfactory. To summarize this subject of uterine hæmorrhage, if it accompanies degeneration, infiltration, hyperplasia, or chronic inflammatory changes in the uterine mucous membrane, there is no treatment so satisfactory as careful and thorough curetting, performed under anæsthesia, and with antiseptic regulations, and followed immediately by the application of an astringent or caustic antiseptic solution.

The use of the curette is indicated for the treatment of mucous and muco-purulent discharges from the uterus, especially in connection with chronic catarrhal inflammation of the glandular system of the cervical mucous membrane. The operation is simple and usually painless, and may be done with almost absolute safety. It is better to do it a week after the cessation of menstruation, when the pelvic congestion has entirely subsided. It is far more satisfactory than swabbing out the discharges with cotton, removing them with a syringe, or simply coagulating them with a layer of iodine or other astringent.

Sepsis is not an infrequent concomitant of the conditions which have been under discussion. The warmth and moisture of a closed or nearly closed cavity like the uterus are favorable to the decomposition, which usually ends in more or less well-defined sepsis. The curette may not remove the septic influences which have been disseminated through the thousand mouths of the uterine lymphatics, but it may stop the tide of such influences; and the rapid changes for the better in septic cases in which curetting has been done, demonstrate that the poison may be rapidly eliminated, and that if we can stop the current before the vital powers are overwhelmed, our chances of success are very good.

Statements similar to the foregoing may be made concerning pain, which is a secondary symptom among the indications for curetting. If the cause really lies in the tissues which are curetted, the operation will cause the pain to disappear; and that this does occur is a matter of too common observation to require argumentation. The operation in general is one which calls for so little skill that it is within the reach of every general practitioner, and there is no general practitioner who does not, at some time or other, encounter conditions which call for its performance.

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THE USE OF ELECTRICITY IN THE TREATMENT OF DISEASES OF THE FEMALE PELVIC ORGANS.

BY J. WESLEY BOVEE, M.D., OF WASHINGTON, D.C.

Read before the Medical Society of the District of Columbia, Dec. 19, 1888.

ELECTRICITY is not unlike all other things in medicine, as regards its invariable tendency to do good, even when applied under the most favorable conditions and in the most careful manner. Yet a great deal of good can be done with it, when it is wisely used. It has, I think, been used in medicine about sixty-five or seventy years, and during that period nearly all diseases have been subjected more or less to its influence — usually without any regard to system, and frequently without any evidence of reason. This is probably due to the lack of knowledge as to its method of influencing living tissues. During the last few years it has received more attention from scientific men, and its effect upon the human system has been quite thoroughly investigated. The conditions in which it is likely to prove valuable as a means of treatment have, to a great extent, been classified. For about three years it has been carefully studied in relation with female pelvic troubles, such as fibroid tumors, inflammatory deposits of long standing, subinvolution, and ovarian neuralgia.

The treatment of extra-uterine pregnancy in its first few months has probably become the greatest field for it, inasmuch as many so-called cases have, in this country, been reported cured by it, and the majority of prominent gynæcologists of this country prefer its application to the use of the knife during the first five or six months of this condition. No uniform rules are followed in its application to erratic gestation, some preferring the faradic current, but most advocating the galvanic, — claiming it is less liable to produce rupture of the gestation sac. But few of these cases have, I think, been positively diagnosticated; and I believe in but two or three cases in which electricity has been used for this unfortunate condition have the products of conception actually been seen. I saw one of these, and assisted in removing, *per vaginam*, a five months' fœtus from Douglas' cul-de-sac. The reporter of the case claimed to have diagnosed the condition during the thirteenth week, and began applying the galvanic current. This was continued about three weeks, and the extra-uterine growth continued to increase in size after the use of the galvanic current was discontinued. It is interesting to know that electricity was passed through the pelvic organs two or three times during the month, just after the last menstrual period. I can hardly attribute the death of this fœtus

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after the end of the fifth month to the use of the galvanic current between the twelfth and the fifteenth week.

Great claims are being presented for the efficacy of the galvanic current in dispersing fibroid tumors of the uterus. Particularly is it advocated in this class of cases by Apostoli, Keith, Newman, Freeman, Englemann, and Cutter. Its value in this direction is, I believe, overrated.

In two cases that I had diagnosed uterine fibroids, the growths disappeared after several applications of the electric current. One of these was, as I thought, a fibroid of about one and one-half inches in diameter, situated in the posterior wall of the uterus. The woman's general health was bad, but rapidly improved while using a mild galvanic current twelve times in four weeks. At the expiration of the time mentioned, the uterus had become perfectly normal. My diagnosis was made the first time I saw her, and three subsequent examinations did not lead me to doubt the correctness of it.

The other case was multiple fibroids of the uterus and very troublesome. In this case I used the faradic current to relieve pelvic symptoms. These tumors also disappeared. I believe, however, the electric current was not the real factor in their removal, inasmuch as such growths frequently disappear without any treatment whatever. The other case I now believe to have been incorrectly diagnosed, that no tumor existed, and that something else was the enlargement I felt; possibly a hypertrophic thickening of the posterior wall of the uterus. My reason for thinking I erred in the diagnosis is that I have treated with galvanism quite a number of patients suffering with uterine fibroids of various sizes, shapes, locations, etc., the treatment in most of them being diligently pursued for some months, and in none of them except the above-mentioned did I notice any diminution in the size of the growth during treatment. One of the two cases cited was one of the first subjected to this kind of treatment, and I was then too enthusiastic in the work to pause for impartial reasoning, or to think I might be wrong.

At any rate, I cannot see what reason the advocates of "electrolysis of fibroids" have for so terming the electric action they describe. Certainly no breaking up of the chemical constituents of the growths occur, except, perhaps, some simple salt like sodium chloride is decomposed. But the albuminoids and other complex proximate principles are not broken up, consequently electrolysis does not occur.

Even if it does take place at the poles, chemical change does not extend any appreciable distance into the growth. In hard fibroids of from nine to twelve inches in diameter, I cannot conceive how any electrolytic action can take place throughout the tumor, without irreparable damage

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to the delicate adjacent tissues. How can a current so powerful be confined to the growth, when the surrounding more delicate tissue has so much greater conductivity?

The galvanic current has been used considerably in the treatment of inflammatory deposits about the uterus, punctures having been made, and powerful currents used, as in the treatment of fibroids. I believe mild currents, if applied oftener and longer, both in duration of application and period of treatment, will prove more serviceable. This has been the plan of treatment of the cases related in this paper.

The profession in general has not shown much ambition in the treatment of acute inflammations with electricity. I have frequently used it in decidedly acute inflammations, and even in the first stage, with most excellent effect. I was pleased by a short article on that subject by Dr. E. H. Grandin, of New York, that appeared in an August number of the "Medical Record" (*vide* vol. xxxiv., 204, 1888). My limited experience is in accord with that of Dr. Grandin. I think the electric current, either the galvanic or the faradic, may many times be wisely substituted for the knife, in diseases of the ovaries and oviducts. Mr. Lawson Tait, basing his opinion upon a few cases that came to him for operation after having been treated by electricity (no description of this treatment being offered), denounces strongly the application of electricity for such cases (*vide* Medical Record, N.Y., 1888, xxxiv., 553). I do not believe that had Mr. Tait given electricity a fair trial in his own practice he would have yet reported his second thousand of consecutive abdominal sections. He had become so expert in abdominal surgery, that I doubt his allowing this form of treatment to be superseded by any other without great reluctance.

I have had a few cases in which the action of the continued galvanic, as well as the faradic, current has been positively intolerable. The history of one of them appears in this paper (case No. 8).

Certainly case No. 7 was far more nervous than this patient, yet the effect was so decidedly opposite to the result in No. 8.

There is a class of cases that cannot tolerate the application of electricity, not even the amount of electro-motive force just sufficient to overcome the resistance of the tissues through which it passes. I am unable to see anything about these patients that could, in any respect, account for the intolerance of the current. It is, probably, an idiosyncrasy that will only be known after attempts to apply the current have been made. The batteries I have used were made by Waite & Bartlett, of New York, and have been faithfully cared for. I have usually applied the galvanic current just strong enough to be not uncomfortable to the patient. Each

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seance usually lasted from fifteen to thirty minutes, and usually repeated on alternate days, but occasionally applications were made every day. The treatment was usually supplemented by tamponnement with small woollen pledgets that were left *in situ* until just before the patient was to return for another treatment. The galvanic current was used in every case, and occasionally the faradic current was employed for its tonic effect, and for the relief of pain. It was usually successful in both of these, and its salutary effect upon constipation was occasionally noticed. I append the histories of a few cases, mostly chronic pelvic inflammations, showing the effect of the mild galvanic current.

CASE 1. — Mrs. W., æt. 31 years; widow; has three children, the youngest being three years old. Last confinement severe — finally delivered instrumentally. Has been an invalid since that event; cannot walk one block; suffers very much with pain in "bottom of stomach" — constant fear her "insides" will fall out; constipated; has continuous discharge from bowels. Menses regular and profuse; appetite poor; general condition bad. I first saw her when she came to my office in a carriage, July 29, last.

An examination revealed perinæum torn almost into bowel, and a glairy discharge from rectum. The uterus was very low, considerably enlarged, and firmly retained in a retroverted position by the dense and thick adhesions from a former cellulitis. The cervix uteri was deeply lacerated bilaterally. I applied the galvanic current for twenty minutes, placing the positive pole against the roof of the vagina, and the negative on the abdominal wall, just a little above the symphysis pubis, and applied a few woollen pledgets against the retroverted fundus uteri for gradual pressure. I also gave her the following: ℞. Tr. nucis vomicæ, tr. Belladon. aa ℥ss. m. et. sig. 15 drops t. i. d. in water. This treatment was continued quite regularly three times a week, until October 9, when the pelvic deposit having been entirely absorbed, the uterus in good position, and the patient's general condition much improved, I operated for the perineal and cervical tears. The union was complete in both localities, and three weeks later she resumed her household duties. November 25, I examined this patient, and found the pelvic organs in a perfectly healthy condition. A Simpson sound passed into the uterus three inches. She said she had gained thirty pounds in weight since August 1, last, notwithstanding the two operations she underwent in the mean time.

CASE 2. — Mrs. H., white, æt. 32 years; came to me September 21, last, and gave the following history: At the age of 20 years she married and had two children, both of which are now living. Her husband died six years later. During one of her confinements the cervix

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uteri was torn, and she had womb trouble following it. During her widowhood she was operated upon for the laceration, and was married again about two years ago. She felt well until last spring, when she had an abortion produced, and was in bed about three weeks following it. The doctor told her she nearly died from fever. Has not felt well since; is thin, delicate, and nervous; suffers with profuse menstrual flow every three weeks, and constant bearing-down pain with headache. After walking a short distance she is obliged to lie down. An examination revealed the uterus retroverted and bound down by a firm pelvic exudate on every side. The sound passed three inches; the cervix tender; considerable catarrhal discharge was seen oozing from its canal. Applied a solution of silver nitrate (20 grains to ℥) to cervical canal and dry wool tamponnade to posterior fornix vaginæ. Two days later she returned, and I began a course of treatment by the galvanic current, as in Case 1, extending the seance to thirty minutes, and applying the wool as before. October 16, made the seventh application.

I succeeded in replacing the uterus, which has no tenderness nor catarrhal discharge. Patient states she has gained six pounds since her first visit, and feels comparatively good. November 4 to 6, menstruated, — no pain, and normal quantity. Treatment continued until November 16, when it was discontinued. The uterus was then in normal position; sound passed two and three-fourths inches, and no pelvic adhesions can be found. She feels perfectly well.

Case 3. — Mrs. H., white, æt. 34 years; married. I was called to see her June 28, last, and found her suffering with a large pelvic abscess to the left of, and behind, the uterus, reaching up into left inguinal region. She had been married twelve years and had three children. Since the birth of the last child she has had three abortions. Since her last confinement, six years ago, she has suffered with womb trouble; menstruation occurred in latter April, but she did not think she was pregnant again, as no symptom as in former pregnancies was present, except nervousness. She was taken with severe pelvic pains, with hæmorrhage from the uterus, on the 17th of June. This began, without warning, a short time after coming in from a drive behind a fractious horse that afternoon. The pains continued until near morning, when her doctor said she passed something that she now thinks was the result of another abortion. She had a fever a few days later, and great swelling and pain in lower abdomen. She suffered so much with pain, that her doctor gave her suppositories of morphia and belladonna; but the fever had never gone away. On my first visit I found her in bed, with a feeble pulse, some fever, and a hectic flush to cheeks; an eruption all

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over the body, that she stated had appeared during the past week. I attributed it to the use of belladonna, and it shortly disappeared after I stopped the suppositories. The uterus was found enlarged, immovable, and very tender. It was pushed forward and to the right by a large abscess that was quite prominent in left inguinal region; fluctuation was distinct through Douglas' pouch as well as through abdominal wall. Considerable sanious discharge from uterus was present. The same day I opened the abscess through abdominal wall, and let out about a quart of yellow pus. A grooved director was then pushed through the vaginal roof in the median line, behind the cervix uteri, against my right index-finger, in the bottom of the abscess cavity. Through the new opening I forced my left index-finger. The cavity was then flushed with about a gallon of hot solution of corrosive sublimate, one to one thousand. A long rubber drainage-tube was passed through the abdominal opening and pulled out through the vagina. The solution of mercuric chloride was used for cleansing the wound. Patient rapidly improved, and the abscess was healed by the 10th of August. August 27, she came to my office. Had just had a troublesome and profuse menstrual period and felt weak; complained of little jars received in riding on street car. The uterus was found still immovable, somewhat enlarged, very hard, and settled back to a position about normal. The whole pelvic organs seemed to be in a mass as if set in plaster-of-Paris. I began using a mild galvanic current, the positive pole applied to vaginal roof performing the work. The current was used twenty minutes, and this frequently followed by the negative pole of the faradic current along the spine for five minutes. She was also given the following prescription: —

℞	Hydrarg. bichlor.	gr. jss.
	Tr. ferri chlor.	ʒv.
	Syr. zingiber	ʒj.
	Aquæ	ad ʒiv.

m. et. sig. Teaspoonful in water after meals.

This treatment was continued until October 26, at which time she was obliged to return to her home in Pennsylvania. The galvanic current had been applied about three times a week. At her last visit she stated she had just passed her menstrual period, and with very little inconvenience. A careful examination was made at this time. Her general condition was much better and she complained very little. The uterus was fairly movable, although no smaller; but the pelvic exudate was lessened in amount and softened.

Case 4. — Mrs. S. M., a widow, 44 years old; first came to me

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June 15, last. She had had three children, the last of which was born fourteen years ago. This labor was severe; she was delivered by forceps, and torn. She had childbed fever, and made a bad getting up. She has suffered ever since with profuse menstruation every three weeks, sometimes oftener, and a sensation of weight in her stomach. Large clots were passed every time she was unwell, and the prostration incident to each attack would hardly be overcome in the interval following it. She has been treated by three or four physicians, all of whom told her her trouble was fibroid tumors of the uterus, and treated her with ergot and other remedies. Her last physician, after a course of treatment extending over six months, told her relief would come only with the change of life. Her appetite was poor, and the feeling of weight pronounced. I found the perinæum torn down to sphincter ani muscle, the vaginal walls flabby, and the uterus symmetrically enlarged to about twice its natural size, a little lower than it should be, and fixed. The cervix was bilaterally lacerated almost to the cervico-vaginal junction, and the vaginal roof thickened and very dense. I could not find a fibroid tumor, and so informed her. I applied the galvanic current as in the other cases, with the occasional application of the positive pole to the interior of the uterus a few days before the expected flow. Dry woollen pledgets were also placed against roof of vagina sufficiently large to cause slight upward pressure. I noticed the intra-uterine electrode passed the first time four and one-half inches. She improved considerably; the hæmorrhages lessened in amount and frequency. Early in August the intra-uterine electrode would pass but three and one-half inches. The flow did not appear in September until near the natural time, and in October it was quite four weeks later, lasting but three days and containing no clots. It did not appear at all in November — no premonition of it even appearing.

November 3. The uterus is movable to a considerable degree, and is smaller, its cavity measuring but three inches. There is yet some thickening of the vaginal roof.

Case 5. — Miss C., æt. 32 years, white; first came under my care July 12 last, when she came to my office, accompanied by her mother. Her history is as follows: —

Began menstruating at 12 years; has never missed a period, nor been free from pain at that time. Has become very severe during the past two years, requiring her to take ½ gr. morphia suppositories, and to remain in bed the day preceding the beginning of the flow, and during the first two days of it. The last period was the worst of her life, and she dreads the next, three weeks off.

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During the intermenstrual periods she has a dull, heavy pain in lower part of abdomen, most marked on the left side. Her appetite is poor, and she is troubled with constipation. Has been treated in Richmond and Philadelphia. She and her mother feared that the ovaries would have to be removed, as that had been advised in Richmond and Philadelphia; they were told nothing else would cure her. She readily consented to an examination, which revealed a small, retroflexed uterus, and enlarged and unusually tender ovaries, which could be fairly well outlined by the bimanual method of examination, the patient lying in the lithotomy position. They were low but movable. I began to use the galvanic current that day, applying it every day for thirty minutes. The current was very comfortable to the patient. After it was stopped I applied a small pledget of wool against the fundus uteri, and allowed it to remain there until just before her return the next day. Once I had to give her a mild laxative. This treatment was continued until she came, August 4. She preferred no treatment that day, as she felt she was going to be unwell soon. She was suffering from pain through the pelvis. She consented, however, to be treated, and I applied the positive pole of a mild faradic current to the uterine cavity for about ten minutes, the negative pole being placed over hypogastrium. She began menstruating during the following night and had very little pain, but remained in bed for two days. The flow lasted four days.

August 11. Patient returned and treatment resumed. An examination at this time showed the ovaries to be less tender and their position a little higher. I pursued the treatment of this patient diligently, hoping to render oöphorectomy unnecessary.

The next menstrual period was passed with but slight uneasiness, and she did not remain in bed. After this period the ovaries could not be felt with the patient lying on her back. I continued the galvanic current for three weeks, applying it on alternate days, after the last menstrual epoch. At this time, September 28, she went to her home in Virginia. At her last visit to me, I carefully examined her pelvic organs. The uterus I found in a better position than at first, and I think a little larger. The whole pelvic viscera had lost its unusual tenderness. She stated she had gained in weight six pounds. I have not heard from her since she left the city, but think she would return if she was not feeling well.

Case 6. — K. S., æt. 24, white, single; came to me June 15 last, suffering with almost constant pain in lower abdomen, that gets worse after walking, even a short distance. Menses profuse and painful, occurring irregularly, although about every three weeks. She cannot go up and down stairs without considerable pain, and that interferes materially with

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the performance of her duties as housekeeper in a large boarding-house. She confessed having had an abortion performed in June, 1886, after having missed two menstrual periods, and did not get along well afterwards, although she did not consult a physician. An examination revealed a dense vaginal roof, holding quite firmly an enlarged, congested, and tender uterus; considerable catarrhal discharge was oozing from the eroded cervical canal. A solution of alum in glycerine was applied to the canal, and the galvanic current was passed through the inflammatory deposit. A small pledget of dry wool containing some powdered borax was laid against the external os uteri. The discharge from the canal ceased about the middle of July. The galvanic current was applied thirty-six times, the last application being made October 12, when the uterus was movable, reduced in size to about normal, and the cellular tissue about it showed no abnormal deposit. She was feeling very well, and had passed the last two menstrual periods four weeks apart, without pain or undue quantity of flow. She was working every day.

CASE 7. — Mrs. B., white, æt. 22 years; she is a tall, thin blonde, and has been married six months. She came under my care October 4, last. She had generally had a great deal of pain at the menstrual period, but it has been worse since the date of her marriage. The first menstrual epoch after her marriage was two weeks late, and then appeared only after her taking medicine upon the supposition that she was pregnant. She did not desire children, and believes she prevented it in this instance. She was confined to bed afterwards with pain so severe that, as she says, she had to take large doses of paregoric to live. She has felt badly ever since, suffering with extreme tenderness in lower abdomen and pain in back. Her last menstrual period ceased one week ago.

At her first visit she appeared weak, pale, and nervous. The conjunctivæ were pale, and she walked slowly and carefully, with a slight limping on the left side. She complained of frequent and painful micturition, loss of appetite with frequent nausea, constipation, and night sweats. She thought she had malaria, as she was having a chill every day.

October 5, I examined her, and found the vagina short and its walls deeply congested and tender. The uterus, retroflexed and retroverted, was quite firmly held in that position by a thick cellulitic deposit to the left and behind it. The eroded cervix uteri was covered by a thick mucopurulent discharge. Applied the galvanic current three times a week. October 10, she felt much better. I added faradization of the spinal cord as a tonic.

This treatment continued until October 31, when patient stated she felt real well and had gained six pounds. She has no trouble with

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stomach, bowels, or bladder. The uterus was movable but enlarged, very little inflammatory thickening to roof now felt. Uterus easily pushed forward, but no discharge from cervical canal; appetite good; no nausea.

The positive pole was applied after this, each time to the interior of the uterus, until the 12th of November. On the 20th she returned to state that she felt perfectly well, and had menstruated four days since her last visit; did not feel uncomfortable during it, and is now doing her own housework. She has no limping, and has no trouble from walking. I found the uterus slightly retroflexed and its cavity of normal length.

CASE 8.—Mrs. S., white, æt. 37 years; has had seven children, followed by an induced abortion at two months, two years ago. She was very ill after that, and has never recovered from it. She is almost an invalid, having constant dull pains through pelvis that become lancinating after much exertion, requiring her to remain in bed. Menses profuse and agonizing, lasting from five to ten days; complains of neuralgic headaches, loss of appetite, constipation, and cutting pains when voiding urine. An examination revealed the uterus to be large, hard, and in normal position, but surrounded by a thickened vaginal roof. Any movement of uterus causes considerable pain and prostration. The galvanic current was applied as in the other cases, and the nervousness following it was marked; so much so, that the application was not extended beyond ten minutes. This occurred July 19 last; after she had rested about one-half hour, small pledgets of wool were applied against vaginal roof around the cervix. She did not return until August 1, at which time she claimed to feel better, and that her bowels had been regular without medicines since her last visit. She was anxious to have the electric current reapplied, as some friend had had a "modern miracle" performed on her in New York by means of this agent. I did not like to repeat the experiment of two weeks ago, but as the patient was anxious to have it tried again, I repeated it. This time the application was barely perceptible to patient, yet I had to discontinue it after about six minutes, on account of faintness and loss of motion in the lower extremities; her face was very pale, and the pulse alarmingly weak. My faradic battery was convenient, and I applied the interrupted current along the spine for a few minutes. It was about an hour before she could walk. I treated this patient until the 2d of October, but did not again employ galvanism on her.

CASE 9.—Mrs. A., 42 years old, consulted me July 2 last regarding some pelvic trouble. She had had two children, and a miscarriage at three months, three years ago. Her trouble dated from the miscarriage. She suffers with pain in back and bearing down, poor appetite, and ner-

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vousness. Menses profuse, but regular, requiring her to remain in bed four of the six days every month. Has been under the care of a few specialists for a year. I found the vagina large and its walls relaxed; uterus enlarged, low, and retroverted. It was almost immovable, very tender to touch, and seems to be embedded into the thickened vaginal roof.

Galvanism three times a week for thirty minutes, each application being followed by a gradual pressure against the lower side of the fundus uteri by woollen tamponnades. She expressed relief just after the first treatment. This method of treatment was pursued until the 9th of October, when the condition seemed normal. I made twenty-six applications of the galvanic current to this patient during the course of treatment.

I do not think much improvement occurred in Case 3 during treatment by galvanism. She felt very well, but this was, I think, not due to improvement in the condition of the pelvic organs. Many women suffer a great deal from conditions about the same as this woman has, and I think she will sooner or later have a recurrence of pelvic pain and sensitiveness.

The result in Case 5 was very pleasing to me, as I am very glad to save a woman her organs of reproduction whenever it is possible to do so.

If electricity is of much value in this class of cases, I think it has a great field in the future, and should be thoroughly tried before the ovaries and tubes are subjected to the knife.

I do not think much good will come from the use of electricity in large pelvic abscesses or in tumors of a cystic or malignant nature. But I think nearly all other diseases of the female pelvic viscera are amenable to its restorative influence. Even small abscesses and small cysts of these structures are, I believe, curable by the judicious application of this remedy. In many of the cases that have been reported as cures of ectopic gestation by electricity, the condition of the patient's pelvic organs, previous to the discovery of the so-called pregnancy, had not been known. The diagnosis in them was faulty, but the treatment perfectly satisfactory. It is not unfair to assume that some of these cysts were not pregnant cysts, but arose in some other manner. Certainly no failure, even in quite inexperienced hands, of the electric current in such cases has ever, to my knowledge, been published.

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CORRESPONDENCE.

To the Editor of Annals of Gynæcology:—

In your issue of March, 1889, under the head of Correspondence, a contributor writes *incog.*, in the *nom de plume* of "Gynæcologist," making a most bitter, unkind, and sarcastic attack on my report of a case last January.

He opens his tirade under three heads: First, that my management of the case was unscientific; second, that I should have turned the case over to what is known as a "gynæcologist;" and, thirdly, the climax of his absurd, and — to use very moderate language — groundless assertion (to use his own words): "The strange thing to be noted in the history, as given, is the almost miraculous recovery of the patient under the circumstances; and the most interesting feature of the case is the illustration it affords of the well-known fact that the surgeon who dabbles in gynæcology is at once the most timid and most reckless of operators. He magnifies the dangers which accompany the simplest of uterine operations, but will do without a moment's hesitation what a gynæcologist of any experience would shudder at the very thought of doing."

I shall deal with his last objection first, and remind the writer that the case was one of unusual gravity, as my record of it showed; and while there was nothing "miraculous" in the recovery of a case treated in a reasonably intelligent and skilful manner by one who did not have to go to so-called experts — gynæcologists — to learn the fundamental principles of surgery, it was a matter of doubt, at the outset, that any operative procedure would save her life.

I would remind him, also, that while female surgery is made a specialty by but a few surgeons in Europe, the only place a "gynæcologist" is known as such is in America. It should not be forgotten that in our country, whatever *substantial* and *enduring* progress has been made in treating female lesions or formations in the reproductive apparatus, was accomplished, not by any specialist, but by the "timid and reckless" surgeon. A person who denies this must indeed be densely ignorant of the literature of surgery.

It may be well to remember, when the *first operations* through the peritonæum were made, there was no such individual known as the gynæcologist.

If we turn to see who laid down the principles and technique of operation, and gave to the world the full and complete classification of any variety of pathological growth, with the description and action of the kinds of microbes found in female parts, we must look to whom? To

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the gynæcologists? No, we must look to those great and grand surgeons who have made modern female surgery *a possibility*.

So much for the gynæcological art. Now we are told that I did not apply proper remedies for the relief of my patient, and that *surgeons* should leave those cases for the specialist, etc. Well, this past winter I have had the pleasure and honor of witnessing the regular attending surgeons of two of the largest hospitals in this city — the New York and Roosvelt — operate, and remove ovarian tumors with the greatest facility and success. We are told that I could not make out the cause of dropsy in my patient's limbs, — that the connection with this and the operation was not clear to me.

I find in the "Medical and Surgical Reporter" for April 12, that Dr. Baldy, who has reported many ovarian operations, mentions the condition as a frequent sequela of those procedures, and he candidly confesses his inability to explain the cause; and I would like here to say, that if any one will take the trouble to visit our almshouse or hospitals for incurables, he will find a large number of unfortunates who have been ruined by ill-advised gynæcological operations. He will see hernias, fistulas, and *lesions* of every kind and description, leaving the unfortunate creatures very much worse off than before the operation.

In order to offset the charge that I did not employ the safest and most approved methods in relieving my woman of her tumor, and to prove *out of the mouth* of the author whom he quotes — Emmett — that my course was rational and justifiable, nay, *imperative*, I must beg to be permitted to quote from some "accessible literature." The *very latest* article extant on this subject of submucous fibroid tumors is from the pen of Sutton.[1] He says: —

"The *submucous variety* is especially liable to necrosis and spontaneous expulsion. An inflammation of the capsule, resulting in interference with the nutrition of the growth on inducing an ulceration on the surface of the capsule, is the usual *cause*. The resistance of the capsule being impaired by the opening, the tumor is expelled by *uterine contractions* entire or *piecemeal*.[2]

"This fact led to the treatment of this variety by means intended *to open* the *capsule through the cavity of the uterus*.

"Atlee and Baker Brown bored holes into the capsule or *divided it with a knife*. Greenhalge attacked it with a cautery knife.

"Byford induced rupture of the capsule with ergot. Cures have been obtained by all those methods, none of which are free from danger.

[1] Am. System of Gynæcology. R. S. Sutton, A.M., M.D., LL.D., pp. 557, 573, 581.

[2] Italics used are all my own.

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"Prognosis: These tumors *frequently cause death*. Relatively, they are innoxious, in the following order: subperitoneal, interstitial, and *submucous*.

"*This last* is the most dangerous, for it is almost always accompanied with a great loss of blood; even a very small tumor may cause fatal bleeding.

"When the tumor is submucous it is frequently expelled through the vagina as a polypus. Thus the capsule ruptures under expulsive effort. It escapes in mass, or breaks down and is expelled *piecemeal; laceration* of the capsule from *any cause favors* such a result. Nevertheless, these tumors occasionally destroy life from irritation, or a fatal hæmorrhage may ensue. The long-continued discharges may exhaust the patient, or tumor pressure on nerves and ganglia may finally wear out the strongest nervous system."

Treatment — same author: "Where there is a small growth, draw down, after *slicing* or *boring* into. If very large, do Tait's operation." It doesn't appear how Lawson Tait's operation of spaying could accomplish any good in a case like mine, where the woman was long past the menopause.

West[1] reported having lost *fifty per cent.* of his cases in enucleating submucous fibroids. "Peritonitis, phlebitis, and pyæmia," says Dr. West, in estimating the success held out by enucleation, — "the consequences of violence done the uterus of women exhausted by large and repeated floodings, — are dangers which *few have altogether escaped;* under which I fear that correct statistics will show that *most have succumbed.*"

Thomas,[2] speaking of the methods applied in removing submucous fibroids, says: "The cervix should be *freely dilated* with *sponge-tents*, or *incised*, as recommended by Dupuytreu, M. Amusat, and Baker Brown." The same author, in writing on sloughing, again says: "Brown, of London, has proposed, in imitation of Nature, a process sometimes set up in fibroids to create the tendency of sloughing, by cutting a deep, circular hole in them, and filling this with oiled lint. Brown styled this 'gouging,' and reported a number cured by this plan. We are informed by Dr. Simms in his recent work, however, that Mr. Brown lately did not mutilate the fibroid, but satisfied himself with incision of the os uteri."

"The dangers which must result," says Thomas, "from the presence of a large, sloughing mass in the uterus *are manifest;* but it is equally so that in such a case as that represented in Fig. 184 [a cut of a

[1] Dis. Women, Eng. ed., p. 305.

[2] Page 498, 3d ed.

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large fibroid] *it may become necessary* to *incur* the attending *risks*, rather than *allow the patient to die from the continuance of her disease.*" I must again ask "Gynæcologist" to look on the same page of the same author.

Incisions. — "In cases in which it is found *impracticable* to effect removal, in which the operator is averse to the danger of establishing a slough, *the best results will sometimes follow the making of deep crucial incisions directly into the mass of tumor.* This plan unquestionably impairs the nutrition and impedes the growth of the tumor. *It should be repeated at intervals of two or three weeks.*"

Emmett[1] says "that Atlee instituted the practice of taking out a section from the tumor, *for the purpose of destroying its vitality, and allowing it afterwards to break down and come away;* and that Simpson was in the habit of putting a portion of *some caustic agent into the interior of the tumor*, with the *same object in view*, and that *other operators* do not hesitate to remove any projecting portions of a tumor *which can be reached, trusting to another opportunity presenting itself for removing the remainder, or that it will ultimately become* disintegrated." I wish, in closing, in these quotations to insert one more paragraph from Emmett, which must have eluded "Gynæcologist's" observation. He says, "All these modes of practice are attended with great danger to the patient from blood-poisoning, and that they should never be resorted to, *except under peculiar circumstances, where it may have become* a choice *of the lesser evil.*"

Now as to the comment with respect to putting the patient into the hands of a gynæcologist. The fact in my patient's case is — and I am ready to support this statement with documentary evidence — that she applied for admission to the "Women's Hospital," of New York, and was examined and reëxamined by the whole medical staff (which included Drs. Thomas, Emmett, Hunter, Lee, and others), and was detained here eight weeks, when they told her she must go, that *nothing could be done for her.* She went home, and bore up with the distress and torture which the enormous mass occasioned, and remained there five years, when her husband sought admission for her into one of my surgical wards. The first thing I did after she entered, before any treatment was commenced, was to invite in a gentleman who makes a specialty of women's diseases, and who is well known in the city, to examine the case and advise us. We were told that it was a growth of the intra-mural kind, and, owing to its great volume and her exsanguinated condition, nothing could be done. I only undertook the operation when I found the *true character*

[1] Principles and Prac. Gynæcol., pp. 562 and 563.

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of the growth, and after I explained to the woman her *small chance* of recovery. It seemed to me after so many specialists failed to either comprehend her real condition or give her any relief, the general surgeon might see what could be done, as he does not look at a case through the same spectacles as the gynæcologist, and confine his field of vision to the *female organs of generation*, but includes *every part* of the body. The *whole human frame* is his field, and he brings, I repeat, the *same* principles to bear on *one part* of the body as on another. He finds disease *everywhere*, subject to the *same pathological laws* and *processes* of *degeneration* and *repair everywhere* alike. As to the first insinuation of "Gynæcologist," that the treatment of the case was unscientific, I have led my contestant to his own chosen champions, and, *without exception*, as my quotations show, they recommend *piece*-by-*piece* removal, under certain circumstances. The only one who manifests any strong objection against its general application is Emmett. He lost a case, while a patient was being relieved in this way, whom he thought should have been saved.

As to modern appliances and methods in the way of instruments and facilities for treating everything with the most rigorous antisepsis, we place our hospital second to none in this country or any other. Our patient certainly would have died under ordinary circumstances; but thanks *to Surgeons Chassiagnac* and *Lister*, the one for the drainage-tube, and the other for the art of destroying pathogenic germs, we were able to meet the enemy more than half-way, and accomplish what would have been almost impossible before the day of Listerism.

In conclusion, I beg to say that this controversy is not of my own choosing. I have been obliged to assume the defensive, and put an end to this sarcastic dealing with a *confrère*, and require a gentleman, when he writes again, to know better what he is talking about. I shall take much pleasure in reporting hereafter — something which I have never done before — all my operations on the female, in the ANNALS, which I hold is published, not for any specialty, but for the *entire* profession.

I do not propose to retaliate on "Gynæcologist" in abusing his fellow-specialists, but I can tell him one thing which he may not know; viz., that in this town where it first saw light, as a specialty, gynæcology is on the decided decline, and is becoming more unpopular with physicians every year.

The main body of the profession look on it as something *very greatly overdone*, and at the same time the general operator now does not hesitate to do any kind of a so-called gynæcological operation. Gynæcology would be an impossibility without the concurrence and tolerance of surgeons. Surgery owes gynæcology nothing, while gynæcology, as such, would be unknown only for the aids drawn from surgery.

THOMAS H. MANLEY, M.D.,
Visiting Surgeon, Harlem Hospital.

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OBSTETRICAL SOCIETY OF PHILADELPHIA.

THURSDAY, APRIL 4, 1889.

THE Vice-President, Dr. W. H. H. Githeus, in the chair.

Dr. G. E. SHOEMAKER described an improvised waterproof drainage-pad for operations.

The only point of the arrangement here described is that it may be improvised in any household, even the poorest; and it is not intended that it shall take the place of the excellent device so widely advertised by an instrument-maker, except in emergencies. It happens to every one, however, to be called upon to do various minor operations when out of the reach of all formal apparatus, and in a number of cases where it was desirable to use water freely without wetting the bed or the patient, the writer has obtained the greatest comfort and satisfaction by the following means: —

The necessary material, which can be had anywhere, consists of a sheet or thin coverlet and a piece of rubber cloth or table oil-cloth.

The sheet is folded twice, and then made into a tight roll about three or four feet long to form the rim. This roll, laid near the edge of the bed or table, is bent into the form of the letter O, with a six-inch opening on one side of the O, the ends of the roll at this opening being fastened by safety-pins strongly to the edge of the mattress or the cover on the table.

When the rubber cloth is thrown loosely over this, a basin is formed which is open at the edge of the bed, and fluids readily find their way to a vessel on the floor to which the rubber cloth leads. Even a prolonged perinæum operation, under constant irrigation, may be accomplished without any disarrangement or leakage. The same arrangement will be found to be of great assistance to patients in that troublesome procedure, the daily hot-water douche.

This may, of course, be called only an adaptation of the idea in the advertised pad before referred to. It may also be called a modification of the waterproof sheet which every woman has used on her bed since the deluge. The only object here is to call attention to the fact that we can, many of us, by simply making a curved ridge in this sheet, and paying some regard to the ordinary laws of hydrostatics, make for ourselves in five minutes a very great convenience, and save our patients and their attendants a good deal of trouble and annoyance.

Dr. W. S. STEWART narrated the removal of a large, adherent, degenerated, parovarian cyst.

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A young lady, aged 24 years, was brought to our hospital from New Jersey, by her physician, for examination and such treatment as should be determined on. I found in the left iliac region a hard mass, which, at first examination, seemed to be solid; but a more careful examination with the finger in Douglas' cul-de-sac, with palpation from above, revealed some fluctuation. On moving the uterus, the mass was found to be adherent to that organ, causing some doubt as to whether or not it was a true ovarian trouble. In consultation with my *confrère*, Dr. Montgomery, it was decided to remove the tumor, as from the history it evidently caused much suffering, with rather increased pain, distress, and irregular menstruation, and was developing more or less rapidly.

Two days later the patient was put on the table, and she almost died from the ether before the operation began. I was kindly assisted by the resident Dr. Hughes, chief of clinic, Dr. West, and Dr. Dorman. On reaching the upper portion of the tumor, I found it adherent to the omentum, to the small bowel, to the walls of the abdomen, to the uterus, and to every part with which it was approximated. It was also deeply seated in the pelvis. On introducing the trocar, I found that the tumor was filled with pus. The liquid degenerated, and we had a pent-up septic fluid in an almost aseptic condition. I rapidly removed the disintegrated sac from the parts to which it was attached, working as rapidly as possible, for the patient seemed to be going to die every moment. Not finding any pedicle, I was obliged to dissect the sac off as carefully as possible, and was delayed some time in getting it off. Considerable oozing, but no special bleeding, occurred. I found the adhesions to the uterus so firm that it was impossible to separate the sac, and if I had used a knife, considerable time would probably have been required in ligating the vessels. I therefore transfixed the side of the uterus with a ligature, and tied both above and below, and clipped off the margin as close as possible without affecting the ligature. Where the sac penetrated deeply into the tissues of the pelvis, I ligated as closely as possible and clipped off the remaining portion of the sac. The pus escaped considerably through the pelvis, and I thoroughly irrigated with pure warm water and stitched up the wound, leaving a drainage-tube in position. The patient was returned to her room with a temperature of 96°, almost moribund. Under the use of restoratives, hot bottles, hot applications, and a hot room, she soon regained her normal temperature, and made a speedy recovery without an untoward symptom. The stitches were removed on the eighth day, and the drainage-tube allowed to remain until the ninth day. The present prospects are, that the patient will entirely recover, and is now (third week) going about her room in the hospital.

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As bearing on the cause of this trouble, I would say that I have learned that she lived on a farm, and that four years ago she took the part of a man in the harvest-field. Her work was pitching the sheaves from a platform in the barn up into a higher portion of the mow. Not having the strength to use the long-handled fork, she put her elbow down on the affected side, and with this as a fulcrum, and the other hand as a pry, she threw the sheaves up. In this way, possibly, she injured herself. This is a suggestion worth knowing, as a possible cause for this development. At this time she was wearing corsets, and this would confine everything, so that the pressure of the elbow caused an additional strain or possible contusion.

Discussion.

Dr. M. Price. — One point that I have noticed in regard to these pus tumors is, that the danger of the operation does not seem to be increased by the fact that they are filled with pus. The patient referred to had probably been in a septic condition at the time of operation, and the moment that the tumor was removed and thorough drainage instituted, her chances probably were as good, if not better, than in a case of simple tumor not in a sloughing condition. I have never seen a tumor filled with pus give any trouble after removal. So far as I know the patients have always done well.

Dr. J. M. Baldy. — I must disagree with Dr. Price. It seems to me that the presence of pus and of a septic condition would considerably increase the risks of operation. In the removal of a cyst in which there had been no septic trouble, and before suppuration had taken place, the woman would be in good condition, and probably have suffered from no symptoms, save, perhaps, those of slight enlargement. In a case of that kind the risks would be small. Where a woman becomes septic from whatever cause, the risks are seriously increased.

In regard to the cause suggested, I think that there is no very good basis for assuming that this had any effect. I do not think that the pitching of sheaves and the pressure of the elbow would cause the development of such a tumor. This might have been an incidental exciting cause, but that it was the primary exciting cause we have not sufficient ground for believing. Many women develop tumors without having any severe labor of that kind. On the other hand, I have seen women who have performed such labor daily, to the severity of which I can personally testify, and never develop anything like ovarian trouble. The wholesome exercise of working in the field would, in a healthy woman, predispose her to good health than to disease.

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Dr. M. PRICE. — It is a well-established fact in surgery that a recent injury in a previously healthy individual requiring a surgical operation is more dangerous than where the operation is for an old injury. The chances of the second patient would be a hundred-fold better. I had my limb broken. A healthier boy never lived, and for six weeks it was a struggle for life. A year later I had the limb amputated, and I can testify that I have suffered more from the extraction of a tooth than from that operation. If the limb had been operated on at the time of the injury, I should probably have died. I was not used to suffering. There had been no preparation. I do not pretend to say that the presence of pus gave the patient a better chance, but the suffering prepared her for a surgical procedure which, in her case, would be more successful than it would be in a case of simple tumor with adhesions. In uncomplicated ovarian tumor, the operation is one of the simplest in surgery. The case reported was probably one of intra-ligamentous cyst, or perhaps a twisted pedicle. If the operation had been performed before pus appeared, with these strong, unchanged adhesions, her chances would not have been so great as after sloughing had taken place, and degeneration of the adhesions had begun. There was less hæmorrhage and less shock. The patient had been prepared for what had to be done.

Dr. W. L. TAYLOR. — I would agree with Dr. Baldy that the removal of a sloughing cyst would cause greater risk to the patient than the removal of a simple ovarian tumor. A patient with a sloughing cyst is necessarily suffering from septic trouble. She is weak and depressed, and her vital powers are lessened. In an ovarian cyst the vital forces are in a good condition for operation. This is the only point to which I would refer, as I did not hear the paper.

Dr. STEWART. — I think that both Dr. Baldy and Dr. Price may be right. Where the septic condition has not reduced the patients to such an extent as to preclude their recovery, they often resist shock and recover rapidly. The shock is less severe than in an operation in a patient in vigorous health. I can understand this, and have seen it in some cases.

In my case the patient scarcely survived the operation; but when the effects of the shock had passed off, her recovery did not seem to be influenced whatever.

Dr. J. HOFFMAN read the following: —

"Craniotomy for a Case of Hydrocephalus, with a Discussion of the Technique of the Operation, together with a Consideration of the Conditions that demand it."

At midnight of Dec. 23, 1888, I was called by a midwife to see a woman. She was unable to deliver, after, as I afterwards found out,

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continual effort for four hours. I found the woman much worn out by her pains, which were ineffectual, though her pulse and condition were, all in all, good. Examination showed a large head, well engaged, lying transverse in the pelvis, the occiput to the left.

I at once put on the Poullet forceps, but, though they were accurately applied, was unable to rotate the head, the forceps finally slipping. After a great deal of difficulty I again succeeded in applying them, with like result, — slipping on traction. A third effort to apply them was only successful after placing the woman on her side. Traction was, however, no more successful than before. I then desisted from further efforts at delivery, two hours having elapsed, and brought Dr. Joseph Price in consultation. Dr. Price, after a great deal of trouble, succeeded in applying the Tarnier traction forceps, with no better success, however, than had followed the use of the Poullet instrument. From the constant slipping of his forceps, Dr. Price suspected a hydrocephalic head, and so expressed himself. I, on the contrary, thought otherwise, as the bones, while not so firm and resisting as usual, did not seem to be sufficiently flaccid to indicate hydrocephalus, at least to me. Events, however, proved the correctness of Dr. Price's suspicion, or rather diagnosis; for, there being no heart-sounds when the head was perforated, the rush of water left no doubt as to the true condition. The instruments used were those presented to-night, as they already have been before. They consist of a crushing forceps, which, from its pelvic curve, is as readily introduced and applied as the ordinary forceps. The non-fenestrated blades afford the safety of a speculum for perforation, and leave no manipulation necessary after that part of the operation has been performed. All consideration of this subject seem to take for granted that the crushing instrument in all craniotomy procedures must be applied after perforation. This, it seems to me, supplies one of the greatest dangers of the operation, and conduces to an unnecessary fatality. The preapplication of the crushing instrument not only protects the maternal soft parts from the danger of injury by the perforator, but also a more exact adjustment, by a gradually applied force as the head is reduced and its contents evacuated by the perforator. The ease of application of this instrument can be appreciated by any one familiar with the ordinary forceps.

The point of the perforator Dr. Price has intended to be protected by the buckskin finger, and the skull pierced through it. This is, however, not really necessary, as the speculum afforded by the crushing blades, together with that afforded by the introducing finger, makes the leather unnecessary.

The combination of instruments afforded in this craniotomy set seems

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to leave nothing further to be desired, even if further destruction of the fœtus is necessary, than the mere reduction of the head. For the consideration of the conditions which demand this operation, there is at present, perhaps, a greater necessity than the mere statement of its technique with any set of instruments whatever. Many of our recent writers apparently desire to condemn it in all cases whatsoever upon the living fœtus without exception. As a type of these may be taken the views of Dr. Busey in the "American Journal of Obstetrics," January, 1889. These writers, of which Dr. Busey may be taken as a type, fail to appreciate the fact that we need go back no further than Hodge to find that in cases where the short diameter of the pelvis is two inches or under, the Cæsarean operation is to be preferred, as affording a better prospect for the mother, while having the strong recommendation of affording a good prospect of safety to the child; this, too, before the improved Cæsarean operation was devised. These writers seem, too, to fail to appreciate that long ago as the writer referred to, to go no further back, the early performance of the Cæsarean section was specifically stated as justifying strong hopes for "the salvation of both mother and child." It is not the purpose of this paper to discuss the relative merits of the Cæsarean section and craniotomy, nor the comparative values of the mother's and the infant's life. It is not possible to avoid, nevertheless, the observation that those writers who unhesitatingly apply the statistical method at arriving at conclusions relative to these in favor of the first operation, seemingly forget that the dangers of craniotomy almost entirely lie within the limits already admitted into the domain of legitimate Cæsarean section, and that outside of these cases the danger to the mother is almost absolutely nothing, as admitted by Lusk in his late discussion. They seem, too, to consider that craniotomy, to be successful, must be done by the expert, and that the Cæsarean section is the safer, no matter by whom performed. To this we submit a positive disagreement, though even Mr. Tait has gone so far as to say in effect that the removal of the pregnant uterus is a simple operation. Dr. Busey refers to the "dream of Tyler Smith, as to the abolition of craniotomy from the obstetric practice."

When we consider the paper of Tyler Smith, to which reference is made, we can readily understand how opportune was the plea. The table of cases therein quoted from cases in "British Practice," affording excuse for craniotomy, state twenty-five indications for its performance, among which are to wit, arm or shoulder presentations, rupture of the uterus, face presentations, bands or cicatrices in the vagina, placenta prævia, rigidity of the perinæum, occipito-posterior presentations, etc. "With

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such 'indications' as these, there was need of a voice crying in the wilderness."

The point to be here considered is whether the decrial of the abuse of any operation necessarily implies that there is never any requirement or justification of such operation. We think not. No one will dispute that where there is danger to the mother in the performance of craniotomy, the conservative operation of Cæsarean section should be performed. On the other hand, where there is no danger to the mother whatever, I consider it questionable whether any obstetrician here present would subject his own wife to the danger of a capital operation in order to save the life of the child. Secondly, in cases where such deformity as hydrocephalus or spina bifida is discovered, I do not believe that the life of the child *should* be considered as compared with the mother's in the danger of the Cæsarean section, providing that the pelvic contraction be not so great as *to bring* craniotomy farther beyond the danger-line than the Cæsarean operation.

The application of the same principle in the case of monsters needs no discussion.

The woman recovered without a bad symptom.

Discussion.

Dr. Stewart. — I would say a word in regard to this case of hydrocephalus. I have had two or three such cases, and have had no difficulty in delivering after penetrating the skull and allowing the water to escape. I consider this an ingenious instrument, but I have used the old-fashioned perforator, cutting both ways. After introducing the blades and separating them you have a free escape of the liquid. The skull then collapses, and there is no further difficulty. You can deliver then with any forceps. Such has been my experience.

Dr. Daniel Longaker. — I have not used this instrument of Dr. Price, but I can readily see that in a certain class of cases, *e.g.*, hydrocephalus, it would be excellent. I desire, however, to say, that in craniotomy, and especially in cases of marked deformity of the pelvis, I have used with the most marked satisfaction the cranioclast of Braun and the perforator of Blot. I do not see how, in ordinarily careful and skilful hands, any injury can be done with this perforator. The trepan is certainly a safe instrument.

Dr. J. Price. — I have discussed this matter on several occasions, but the remarks of Dr. Longaker invite me to say something. The application of the instruments mentioned is difficult. When closed, they occupy one inch of pelvic space. Much damage is often done, and the mortality

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in craniotomy has been largely due to injury of the maternal soft parts by this instrument. In one case the sacrum was trephined with the instrument alluded to. Hodge long ago called attention to the use of the ordinary forceps as a compressor. This instrument is made on the same principle, and the strength is in the handles. You can crush anything with this instrument. Any one who can apply the forceps can apply this instrument in any pelvis where the forceps can be applied. It can be applied in a pelvis with a diameter of one and a half inches. I have seen it successfully applied by beginners in the case of dead children without doing any mischief. The instrument is used, first, as a speculum; second, for fixation; and, third, for compression.

Dr. LONGAKER. — It is only necessary to refer to my own experience with cranioclasis, and to confirm my favorable opinion of the operation. I will refer to a paper which can be found in the "American Journal of Obstetrics," I think, for December, 1884. Cases by the fifties and hundreds are reported without a fatal result. This is a proof of the safety of cranioclasis, which I consider the better operation where there is a high degree of pelvic deformity.

Dr. J. PRICE presented specimens, with remarks.

I desire first to present two fresh specimens. One was very unique, removed day before yesterday, — a case of double pus-tubes and double ovarian abscess, with pus in the cellular tissue. The ovaries were cheesy shells, and they both ruptured in the removal. The pavilions were entirely gone. There was no hesitation on the part of those present in regard to the character of the fluid. It was pus. Much has been said in regard to the character of the fluid from this locality. If such liquid was removed from other parts of the body, there would be no question in regard to its character. I open one of these tubes before you, and I trust that you will examine the fluid carefully.

This is a typical case of ovarian cyst, no larger than an egg, with no semblance of the pavilion. This contained fluid; but I do not claim that it was pus. The cyst was strongly adherent, and I had to shell it out.

Here is an enormous ovarian abscess, unquestionably due to gonnorrhœa.

You will find that most of these tubes have been cut through, and a stick inserted. Most of them, on removal, were as large as the uterus. All of the patients were great sufferers. I am sometimes asked what becomes of the patients who refuse operation. In five of these cases I had urged section from a few months to several years previously.

This specimen is from a woman to whom I urged operation five years ago. It is an enormous dermoid cyst, encapsuled by omentum. It looked like a hopeless case, but she made a good recovery.

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Here are two small ovarian cysts, in which it would have been easy to guess at the diagnosis of extra-uterine pregnancy. Here are typical pus-tubes, and you can bear in mind that the character of the fluid in these cases was that of the tubes before you.

I have here a group of four or five small cysts, the removal of which I consider important. These patients suffered severe pain. These occurred in young women who were able to definitely locate the seat of the pain. One of these small cysts developed in a recently married woman 19 or 20 years of age. She saw me three days ago, three months after operation, and states that she has missed the last two periods.

This small tumor was removed by Dr. Müller, of Germantown. The ovary is healthy, and you see a very pretty parovarian cyst. The woman made a speedy recovery.

I have here two extra-uterine pregnancies. The placenta and clot in one is seen in the tube, and can be removed. This is unquestionably an extra-uterine pregnancy. In the other the placenta is inside. The specimen has been examined by Dr. Piersol and Dr. Meigs, and they state that it is undoubtedly extra-uterine pregnancy. This is a hydrosalpinx of the opposite side of the first case. Here you have a beautiful illustration of the existence of double disease. On one side desquamative salpingitis, hydrosalpinx, and pus-tubes, and on the other side extra-uterine pregnancy. The second case was an example of double tubal pregnancy, and both tubes had ruptured. This woman lived after the uterus had been curetted twice, and iodine had been injected after the second operation. The bleeding continued, and until the abdomen became distended, it was not deemed necessary to do anything further.

I desire to say that four of these operations followed Emmet's operation for laceration of the cervix. If there exists any tubal disease, this is a dangerous procedure. Some one has remarked that Emmet has gone back on his operation. He has uttered a word of caution, because of the mortality in the hands of some of his followers. Many of the cases come back to him. Where there has been tubal disease, many deaths have occurred, and many patients are invalids. I do not condemn the operation. I know it to be valuable in well-selected cases, when you can exclude the existence of tubal disease.

Discussion.

Dr. M. Price. — Here again comes up the question of the preparation of the patient by the leakage that has been going on in the pus cases. I have seen at least fifty pus cases in the last two years. Very rarely is it that you can deliver the tube without some leakage and perhaps rupture.

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These cases have recovered and do better than some simple cases. Our nurses always prefer a pus case where a drainage-tube has been used. Where a patient is poisoned and dying, no one makes any claim that there is any advantage; but where inflammatory changes have been going on for a long time, there is, unquestionably, a preparation. I have never seen but one case of pus in the pelvis die. That case died from starvation from the nurse drinking the milk. These cases recover if the enucleation has been done with care, and irrigation and drainage properly performed.

Dr. HOFFMAN. — In regard to the gonorrhœal origin of these troubles, I would say that two weeks ago I had a child two weeks old brought to me with sore eyes. I applied nitrate of silver, and gave explicit directions as to treatment. In three days the child lost its sight. I found that the mother had gonorrhœa of the most virulent form. I also found ovarian and tubal trouble very marked on one side. She had been married only a short time, and previously had known no trouble. There seems to be a connection between the inflammation of the child's eyes, the gonorrhœal discharge from the vagina of the mother, and the trouble in the pelvis.

Dr. J. M. BALDY. — I do not care to say anything in regard to pus-tubes, because my views have been often expressed. I would again take exception to the view of the preparation of the patient by sepsis. It is true that in many surgical injuries better results are secured where the operation is done some time subsequently, than when it is done at once. This is not because of septic infection. Shock is here a great element. This brings up the old theory that it was better to allow ovarian tumors to reach a large size, in order that the peritonæum might be prepared, etc. We have long since given this up, and we shall quickly have to give up the idea that the patient is prepared for operation by being septically infected.

Dr. Hoffman has referred to the connection between inflammation of the child's eyes and gonorrhœa in the woman. Individual cases do not go for much. The fact that the child has inflamed eyes does not indicate positively the existence of gonorrhœa. The nurse's hands being contaminated by the septic lochial discharges may infect the child's eyes.

In discussing this matter in the Pathological Society the other night, the president stated that he had seen unquestionable gonorrhœal pus-tubes removed from a single woman. On inquiry, however, he admitted that the woman had had two criminal abortions a short time before. This was probably the cause of the inflammatory trouble, and this is the history of many of these cases. I protest against the view that assigns gonorrhœa as the cause of all of these cases. It is a dangerous teaching for ourselves as a profession, and it is dangerous teaching

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to the laity. If we teach the laity that all these cases, or most of them, are of gonorrhœal origin, we shall cause an unlimited degree of marital unhappiness throughout the country, and shall cause irreparable family troubles. We certainly have to have better and more scientific ground than mere clinical histories before we can accept this extreme view Dr. Hoffman, in a recent discussion, cited the statistics of Bernutz and Goupil as a proof of this view. Out of ninety-nine cases, about forty-six were of gonorrhœal origin, and these were in the lowest class of women. Even by these picked statistics, and amongst this low class, over half were of septic origin, and many of the supposed gonorrhœal ones I would be inclined to dispute. I must adhere to my opinion, that by all odds septic infection is the most common cause.

Dr. M. PRICE. — The report referred to was from Charity Lying-in Hospital, with a record of fifty per cent. gonorrhœa. The remainder are attributed to sepsis and wounds during labor.

Dr. W. H. PARISH. — I would endorse what has been said as to the inadvisability of operating for lacerated cervix where there is disease of the tubes and ovaries. We know that salpingitis is often an extension from the endometrium, often gonorrhœal, sometimes septic. Thorough drainage is important, not only in the treatment of the endometritis, but also in the palliative treatment of the endo-salpingitis. By narrowing the uterine canal, we prevent the free escape of pus and other fluids, and aggravate the trouble. I consider it unwise and not safe to operate on these cases. Within the past week I was called to operate on a lacerated cervix. I had not seen the patient for twelve months. After etherization, I found evidence of tubal disease on one side, and declined to operate on the cervix.

Dr. J. PRICE. — In regard to this question of percentage, I agree largely with Dr. Baldy. He admits this evening what he did not admit in the discussion at the County Medical Society, — that these cases are largely due to gonorrhœa. Criminal abortions, cold, and exposure are other common causes of such mischief. Mr. Tait and many others are operating on a simpler class of cases than we are. Operating to save lives has been the course of many Philadelphia operators. In all of the cases reported, the operation was done to save life.

The operation should be rapid, every detail should be shortened. The ligature should be the finest possible. Large plaited ligatures are not absorbed, and are at the bottom of many sinuses. The ligature should be applied at the root of the tube. Complete delivery of the tube and ovary, tying at a good surgical neck; then thorough irrigation, with careful closure and perfect drainage. There are two things in which my convictions

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are as firmly fixed as in anything in medicine; and that is, first, the value of irrigation, and, second, the value of drainage.

J. M. BALDY,
Secretary.

DISCUSSION IN THE BERLIN OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY, JUNE 22, 1888, ON CAUTERIZATION OF THE VAGINA AND VAGINAL PORTION OF THE CERVIX UTERI WITH CHLORIDE OF ZINC FOR CARCINOMA.

EHLERS referred to the recommendation of Van de Warker, that a concentrated solution of chloride of zinc be used for the cauterization of carcinomatous surfaces, and attributing to this remedy a specific action upon such new-growths. Löhlein had made a trial of this method, and had referred the sloughs which were discharged to the speaker for microscopical examination. He had found that the effect of the chloride of zinc was attributable to its hygroscopic properties. There were numerous inconveniences in its use, such as uncertainty as to the proper quantity to be used, difficulty of limiting the application and its subsequent action to the area which requires attention. In four cases which had been carefully studied, satisfactory results had occurred in but one.

Olshausen believed that the use of chloride of zinc was not free from danger, on account of the impossibility of predicting the extent to which it would act. It might also lead to the formation of hard cicatrices in the uterine mucous membrane. He had seen permanently good results from the use of the tincture of iodine, which has hæmostatic properties, and diminishes secretion.

Bröse had used chloride of zinc in more than one hundred cases, without seeing the formation of cicatrices, and Rheinstädter had had a similar experience. The mucous membrane should not be destroyed by the caustic, but cauterized superficially, so that regeneration will take place quickly. It was not unusual for conception to take place immediately after treatment had been concluded.

Cohn had used the zinc in ten per cent. solutions in cases in which the disease was too far advanced for total extirpation of the uterus, and in which the proximity of the bladder and rectum to the diseased tissue rendered the use of the curette or of the actual cautery dangerous.

Löhlein had used the zinc in the same class of cases as that which Cohn had described, being induced to do so by Van de Warker's description of the healthy, reactive inflammation which was induced in the dis-

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eased tissues. He had failed, however, in obtaining the desired results, though no bad consequences, such as hæmorrhage or troublesome cicatrices had attended the application of the caustic. It was difficult to decide as to the relative merits of fuming nitric acid, solution of sublimate, and sodium chloride and chloride of zinc, in their effect upon cancers which are inoperable.

The first of these had been recommended by Chrobak and the second by Schramm, the latter to be injected into the diseased tissue.

Vowinckel had used a hard paste of chloride of zinc in cases of advanced uterine cancer, applying it with great care to the diseased surface, and considering it safer and quite as efficacious as the watery solution. He used it after the diseased organ had been curetted and the surface had become thoroughly dry.

Odebrecht cited Schroeder as authority for applying the zinc in very strong solution (fifty to one hundred per cent.) upon the mucous membrane of the cervical and even the uterine canal, for the cure of obstinate cases of leucorrhœa. He had found its use in cancer more satisfactory than that of any caustic, either actual or potential, which he had employed.

Veit did not propose to discuss the question as to the best treatment of inoperable cases of carcinoma after curetting had been performed. All measures which might be used were only palliative. He did not think that the treatment of endometritis by such a method was warrantable. He had seen hæmatometra result in a number of cases from such practice. He had also seen adhesions more frequently than cicatricial contractions resulting from the use of the galvanic cautery or the fuming nitric acid.

A. Martin had followed the directions of Labbé in a number of cases of inoperable carcinoma, using chloride of zinc in the form of Canquoin's paste, and leaving it *in situ* from six to twenty-four hours. After a period of eight to ten days, a mass of purulent, gangrenous tissue would come away. An abundance of granulations would then be apparent, a cicatrix would form, and there would be great contraction of the surrounding tissues. At first the condition which resulted would be a satisfactory one; but in case the cauterization had extended to the bladder, the rectum, or the perinæum, communications being formed between these structures, the suffering of the patient would become intolerable. The bad results which he had seen had induced him to abandon the use of the zinc for carcinoma uteri. He also thought its caustic effect too great to warrant its use in endometritis.

Brõse stated that the momentary use of the caustic in endometritis could not be compared with its use in carcinoma. He thought it was the best possible agent for curing chronic uterine catarrh.

A. F. C.

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NEW RESEARCHES ON SYPHILIS OF THE PLACENTA.

BY M. PEDICINI.

Translated from the "Progresso Medicale," p. 241, 1888, by A. Pick and F. Pritchard, Boston.

PEDICINI divides the morbid changes of the placenta arising from syphilis into (first) chronic, indurative, inflammatory processes (placental sclerosis), and (second) real gummata of the placenta. The former may be divided into two chief groups: —

1. Circumscribed or nodular, and
2. Diffused.

In the circumscribed or nodular placental sclerosis, the tissues of the placenta are found to be infiltrated by yellowish-white nodules, which sink into the mass of the cotyledons. Upon section, these nodules have a fibrous appearance; they are partly compact, and partly they conceal in their interior small cavities with hæmorrhagic contents. The older the process, the more resistant and firm are the nodules.

Sometimes the uterine surface of the placenta appears perfectly normal, while on the fœtal surface, and here and there on the opaque and thickened chorion, the above-mentioned nodular growths are to be found in variable numbers; at times the reverse obtains. In other cases one may observe, in carefully prepared sections, that the placental tissue, especially the single bundles of colli and their branches, have fused together, when they form grayish-yellow masses of a varying consistency, which send forth radiating processes into the surrounding tissues. This is an earlier stage of the condition first described. A form of the circumscribed placental sclerosis which has not yet been described is characterized by the formation of numerous extremely small nodules, which, upon superficial observation, might be taken for a tuberculous infiltration, — miliary infiltration.

This is a process which keeps pace with the severity of the manifestations upon the skin and mucous membranes of secondary syphilis.

In answer to the question whether one may be able to conclude from the placental changes whether the syphilis be of paternal or maternal origin, the writer says that in completely developed placentas this would be absolutely impossible. The *lamina cuticularis seu epitheliales externa* of the villi is chiefly of maternal origin; the remainder is only a mass of fœtal or chorion-villi, and the intermediate spaces only are the representatives of the maternal vascular sinuses. If the virus were of maternal origin,

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it could only enter through the sinuses mentioned; and if these alone were changed, then only could one with certainty speak of the maternal influence, and thus refer the contagion of the ovum exclusively thereto.

The diffused forms of chronic placental sclerosis may also, after their rougher anatomical characteristics, be called diffuse chronic placentitis.

The process is characterized by the development of a connective tissue, hyperplasia, which infiltrates the organ partly in radiating lines, and has a not-to-be-mistaken similarity to that disease of the liver which is known under the name of hepatitis syphilitica lobata.

The beginning of the process may be even seen with the naked eye. It extends from the neighborhood of the vessels and from the vessels themselves, especially those of the subchorial branches, which are the largest and those most frequently attacked. The thickening of the vessel-walls in the advanced stage of the disease may be seen even in the smallest vessels of the cotyledons. Small branches of the villi feel like small cords, and upon transverse section show a small white circle with a small central dark point, the lumen of the vessels. The main branches of the umbilical vessels which radiate upon the fœtal surface of the placenta and beneath the chorion are those in which the sclerosis reaches its highest degree. They appear as large, hard, and serpentine cords, which, at those places where they are attached to the dicotyledonous lobes, show a direct communication with the above-mentioned connective tissue proliferation. Many of these vessels are filled with thrombi for long distances. In case the thrombi continue into the umbilical vessels themselves, then death of the fœtus is the inevitable result. Stenosis of the umbilical vessels is frequently found in the fœtuses of syphilitic mothers, and, together with the changes of the tunica intima, is a sure sign of syphilis. On the other hand, it is not to be denied that in cases where the fœtus is decidedly syphilitic, and where, with corresponding pathological changes of the placenta, the umbilical vessels may also be found perfectly normal.

The so-called granulomata or gummata of the placenta show much more distinctly their essentially syphilitic nature than the previously described placental changes. The size of the placental gummata varies. The small gummata frequently show central necrotic foci surrounded by the characteristic round and granular elements, which, on account of their great caducity, easily degenerate and form the so-called zone of caseous softening. Their formation may be seen on placentas at an early stage of development. The small granular foci are sometimes diffuse; this form may, perhaps, be referred to a confluence of several single nodules.

The writer observed that in the decidua serotina the largest cells are destroyed by a parenchymatous degeneration or a necrotic colliquation.

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They lose their nuclei and degenerate into a caseous mass. Therefore, the condition in question is not characterized by neoplastic foci, but rather the cells of the decidua themselves doubtless are destroyed in consequence of disturbances of nutrition which nature is unknown. Large gummata are rarely found, and are chiefly found in the late stage of syphilis.

In regard to the placental hæmorrhages or apoplexies the writer observes that they are very frequent in syphilitic women, especially during the virulent stage. The view that the sclerotic nodules and the partial or diffuse indurations are a result of hæmorrhages is wrong. To accept this would be to confound cause and effect. The most dangerous hæmorrhages are those which take place into the decidua serotina, these occurring most frequently in the third month of pregnancy. Besides the great ease with which the vessels are torn and their considerable volume, the gummatous degeneration of the elements of the decidua is the chief cause of the severe hæmorrhages. In older placentas the hæmorrhages are frequently dependent upon arterio-sclerosis as well as fatty degeneration of the capillaries.

The aborting of syphilitic women is not, as Pedicini emphasizes, to be regarded in all cases as a result of pathological processes of the placenta. For although, in most cases, abortion follows as the result of rupture of the utero-placental vessels, yet the syphilitic affection may be transmitted to the fœtus, which then perishes and is prematurely expelled.

Œdema of the villi, cystoid myxoma, fatty degeneration, and extensive calcification of the parenchyma of the villi, as well as hydrops placentaris, may accompany the placental changes originating in syphilis; but, however, with the placental syphilis they have no connection.

The literature (on this subject) is meagre; the translators append the following articles for further reference, which we have collected after considerable research: —

1. Debray: Syphilis placentaire. Presse méd. belge. Brux., 1887. xxxix., 153–155.

2. Pedicini: Nuove ricerche sulla sifilide placentare. Progresso méd. Napoli. i., 67, 114, 152, 283; 1887.

3. Finowieff (G.): Étude sur l'histologie pathologique du placenta abortif. Par., 1887. 40, 170.

4. Finowieff: Estudio sobra la histologia patholόgica de la placenta abortiva. An. de obst. ginopat. y pediat. Madrid, 1887. 2 ép., vii., 257–264.

5. Filles, R.: Studien über Erkrankungen der Placenta und der Nabelschnur bedingt durch Syphilis. Mitth. a. d. geburtsch.-gynäk. Klin. zu Tübingen. 1884–85. i., Hft. 2, 1–143, 4 pl.

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6. T. MACKENZIE: Syphilis of the Placenta. 2. 1854.

7. HERVIEUX: Placentite syphilitique. Bull. Acad. de Méd. Paris, 1879. 2 s., viii., 880–890.

8. REAL-ENCYCLOPÄDIE DER GE. HEILKUNDE. Bd. 10, p. 661.

9. VIRCHOW: Krankhafte Geschwülste. Bd. ii., p. 480. (Cf. SLAVJANSKY: Prager Vierteljahrschr. Bd. cix., p. 130.)

10. NOUV. DICT. DE MÉD. ET DE CHIR. PRAT. Vol. 28, p. 73.

11. VERDIER, A.: Recherches sur l'apoplexia placentaire et les hématômes du placenta. Thèse de doctorat. Paris, 1868. Archiv. gén., 6e série, t. xi., p. 542.

12. FRÆNKEL: Archiv f. Gynäkologie. Bd. 5. Berlin, 1873.

13. SEBERT, H.: Placentas provenant de femmes syphilitiques. (Comptes rendus de la Soc. de Biologie, 1850. T. ii., p. 127. ———.) Traité d'anatomie pathologique. Paris, 1856. T. i., p. 242.

ON MELANOTIC TUMORS OF THE FEMALE GENITAL ORGANS.

BY HAECKEL.

Translated from the Archiv für Gynækol., XXXI., 3.

COMMUNICATIONS on melanotic tumors of the external female genital organs are extremely rare. Haeckel cites in his article the cases which have been published on this subject, adding one of his own. The case in question was one of melanotic sarcoma of the labia. Extirpation was performed by cutting far into the surrounding healthy tissue. The inguinal glands of both sides were also extirpated, together with the adipose tissue of the mons veneris, and as far as the region of the groins, similar to the procedure of extirpating the mammæ, together with the axillary glands. In the adipose tissue there were visible lymphatic vessels filled with a bluish-black mass. Recovery took place without complication, the wound healing under an occlusive bandage, which covered the vulva, abdomen, and two hips, and upper part of the thighs, while a permanent catheter was placed into the urethra, and the vagina tamponed by iodoform gauze. Stools were caused to be retained for several days. Five months later the woman died from metastases to the abdominal organs.

P. P.

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HOSPITAL REPORT.

A CASE OF REMOVAL OF THE BREAST (PLATE II.–IV.), WITH REMARKS ON A METHOD FOR CLOSURE OF THE WOUND AFTER THE SO–CALLED COMPLETED OPERATION. — MURDOCK FREE SURGICAL HOSPITAL FOR WOMEN. — REPORTED BY F. L. BURT, M.D.

THE whole subject of tumors of the breast, cancerous and otherwise, has been very thoroughly studied, and the results of investigations have been quite extensively published. An exhaustive paper, written by Professor Gross, has recently appeared in the "System of Gynæcology," and at about the same time the writings of Drs. Hodges, Warren, and Richardson, of this city, appear on the same subject.

Doubtless there is very much more which I have not noticed. These authorities have all very carefully gone over the subjects of the cause, pathology, course of the disease, proper treatment, chances as to recurrence, etc., in such an able and thorough manner as to leave little, if anything, to be added which is not already quite well known. Since, however, the highest authorities differ widely in their expressed views as to whether it is advisable to operate at all, and as to whether any case is ever cured by surgical interference, I desire to express the opinion that no case (unless it be too far gone to allow of temporary relief even) should be refused the benefit of an operation; and, besides, there should be, in general, a repetition of the same so long as there is any recurrence. Inasmuch as there is a record of a case operated more than twenty times for so many recurrences of a tumor of the breast, and then cured so as to live for many years with no more return, it seems not unwise to recommend the same process for others. Again, it seems to me that, in general, if any operation is needed at all, the completed operation is the only one to be seriously considered. By the completed operation I would not mean that it is necessary to go deep into the axilla if there is sufficient evidence that there are no enlarged glands present. Fatal results have been recorded, and it is usually thought that there is considerable shock, at least. In the operations which I have seen (numbering about thirty) there has been no death, and I have not yet observed that shock has been at all in proportion to the magnitude of the operation.

When a cancer returns, it does so in or near the cicatrix of the old wound, or among the axillary glands.

In my experience, the former is the most frequent point for recurrence; because of this, it is necessary to consider the more extensive

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removal of skin about the mammary gland. This would be done after the method recommended by Gross, or by a modification which others might see fit to make.

The cure of the patient is the all-important question, and could it be done in no other way, the question of a large open wound and the requirement of many months to granulate or close by grafting would be of little moment.

In case the skin has been so extensively removed, then comes the question as to whether an open wound ought to be left or some method of closing should be tried, and in this manner a healing by first intention secured, thus preventing the drain from long discharges and the many weeks or months necessary for the healing process.

When the whole disease has been removed, the skin should be closed if possible, and in order to be successful, the entire wound should be aseptic, and as little strain as may be on the sutures. (In many cases the closure of a wound would look to be impossible, and it is a method of operating on just this kind which I have in mind to describe, because I am satisfied that many of them can be closed and healed very satisfactorily.)

In such cases, if suturing is begun at the sternal end, the first few sutures will draw together without much strain, but it is not usually possible to go far before the strain is considerable and approximation difficult. A little extra subcutaneous separation will aid very materially in loosening the flap.

The insertion of sutures may be continued for about one-third the length of the incision, and at about this point it will be found hardest to approximate the edges; then beginning at a point below the arm, which would be the end of the incision in a straight line, the skin at this point is brought over to the place of the last suture. This leaves two lines to be closed by straight suturing. When completed, the scar will present a stellate appearance, instead of the customary linear one. There is usually considerable superfluous skin in or below the axilla, and this can be used to no better advantage than in this manner. (Plate III., Fig. 1.)

Deep sutures may now be placed as far as convenient from the edge of the skin (a quilled suture is very satisfactory), and considerable strain is thus removed from the wound edges.

A coating of iodoform collodion is now applied over the line of sutures; over this is placed any kind of dressing desired, preferably as light as practicable; then the surgical plaster is applied and laced, as seen in Plate IV., Fig. 2.

Over the whole a cloth bandage is placed, and, if compression is necessary, a rubber band is used for the final layer.

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The bandage most suitable for this purpose is such as is now used for an abdominal bandage with three or four tails.

Two tails are fastened over the shoulder of the diseased side, thus holding any dressing in the axilla, two over the opposite shoulder, and two or four go around the body.

I do not bring forward these points with any claim that they are new. Doubtless they have all been applied, but probably not all together in one case.

The case here reported is of a colored woman about 50 years old. She has had a tumor of the left breast for nearly a year, but said nothing of it until six weeks ago, when the odor was so offensive that an investigation was made. A tumor was found the size of an adult head (Plates II. and III.), and an ulcer about the size of two hands.

The ulcer was discharging profusely, and the patient was emaciated and very weak. I examined her at her residence, and it was a question as to whether any operation should be attempted; yet she was admitted to the hospital to give her a chance for relief, and the tumor was removed by Dr. Cushing on the following day.

A large amount of skin had to be removed, following which it was with great difficulty that the edges were approximated; but that such was accomplished can be seen in Plate IV., Fig. 3.

This case is reported because it is the one here illustrated, and is as severe a case as would ever be operated with any hope of relief.

There is no claim that it was a complete success, because it was only partially so, inasmuch as some of the thin skin sloughed; but it has resulted in what may be considered an entirely satisfactory manner, and at least half the surface was covered, the remainder rapidly healing with grafting, under the assiduous care of Dr. Brigham.

The cause of partial failure was due to the fact of the extreme distention of the skin before operating, which left the remaining flap very thin; also to the bad state of the system.

Two other difficult cases performed in this manner have been successful, and, as a whole, the method has proved entirely satisfactory.

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FALLOPIAN TUBE.

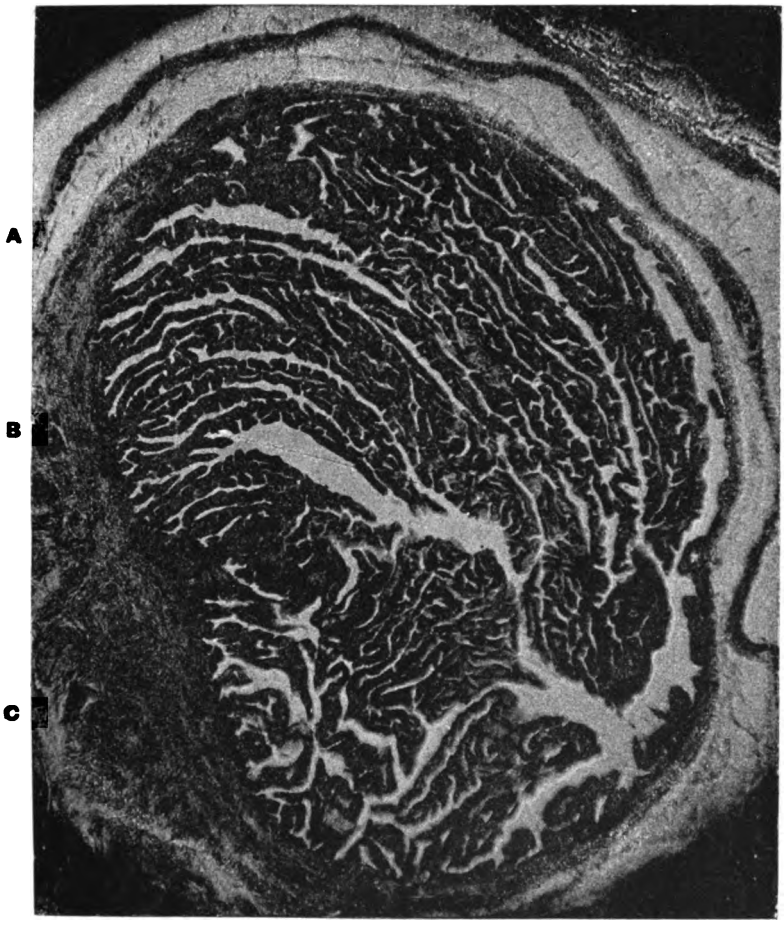
Magnified 20 diameters.

A, B, C — Fimbriated extremity. Between **B** and **D** — abdominal opening of tube in ongitudinal section, showing folds of mucous membrane. **D** — Point where the section leaves he lumen of the tube, owing to a curve.

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FALLOPIAN TUBE.

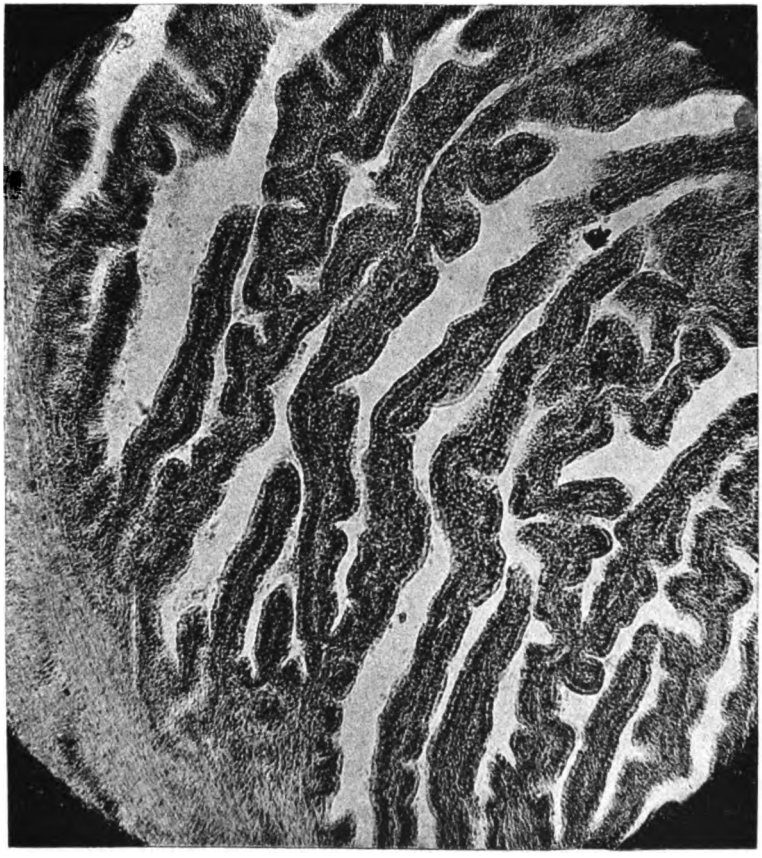
20 X

Cross-section near the fimbriated extremity, showing the folds of mucous membrane, which nearly fill the opening.

A, B, C — Side of the tube by which it is attached.

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FALLOPIAN TUBE.

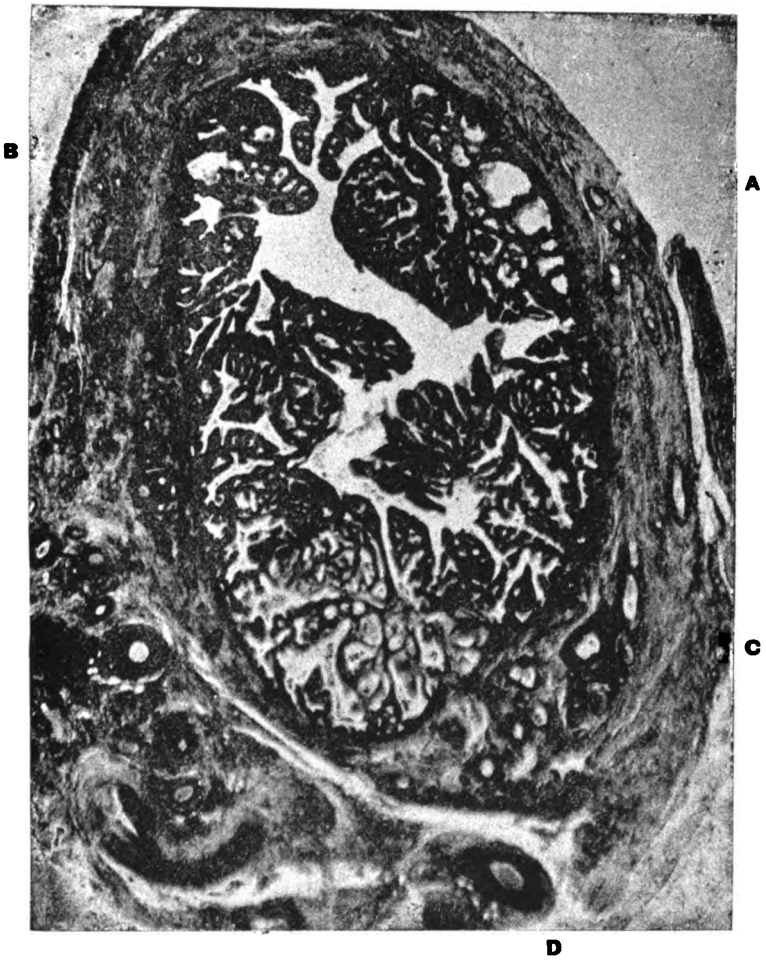
150 ×

A, B corresponds to **A, B** in Plate II. The columnar epithelium covering the folds of mucous membrane is well seen near **A.**

In this, as in the previous figure, there is no invasion of the muscular tissue, **A, C,** by glandular formation.

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FALLOPIAN TUBE.

Catarrhal Salpingitis. 16 ×

The folds of mucous membrane are thickened, and in some places form closed pockets, as at **A, B.** The lower part of the lumen is filled by a mass of thickened tissue. Opposite **C,** above **D,** glandular outgrowths have penetrated into the muscular coat. (See page 423.)

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ANNALS

OF

GYNÆCOLOGY.

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ORIGINAL COMMUNICATIONS.

EMPHYSEMA OF THE ABDOMINAL WALLS AFTER LAPAROTOMY.

BY DR. WINTER, OF BERLIN,

Privatdocent and Second Physician at the Royal University Hospital for Women.

AMONG the complications which may occur during convalescence after laparotomy, the exudates and suppurations in the abdominal walls were formerly decidedly the most frequent. They were usually situated in the subcutaneous, more rarely in the preperitoneal, connective tissue, and generally originated in the needle-tracks.

At the present time these tedious disturbances of the union of the wound have become rarities, through the better disinfection of the material used for sutures, through the occlusive dressings, and finally through antisepsis in general. Sometimes a preperitoneal exudate may originate from infection of the great spaces in the connective tissue of the parametrium, which are opened in myotomies and in ovariotomies involving enucleation; such exudates, which also occasionally extend to the anterior abdominal wall, in accordance with the laws governing perimetritic effusions, are now also occasionally seen.

In such suppurating exudations there may sometimes be developed by putrefaction gas, which is found in the cavities in large bubbles mixed with pus. Extensive collections of air in the form of subcutaneous emphysema do not occur in these cases. We were, therefore, very much surprised when in a patient after laparotomy extensive emphysema of the anterior abdominal wall was observed. The case was as follows: —

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Mrs. N., 39 years old, on the 18th of June, 1888, underwent a laparotomy, performed by Professor Olshausen. A myoma nearly as large as a man's head was removed without particular difficulty by supravaginal amputation, after Schroeder's method, and the pedicle was dropped. The abdominal wound was united by about ten or twelve deep silk sutures, and by superficial catgut stitches, which only coapted the skin. A firm compress of cotton gauze was secured over the wound with adhesive plaster. The patient rallied well.

June 28. The dressing was taken off, the sutures were removed. The wound has healed completely by first intention. Over the whole anterior abdominal wall, from the symphysis upward to the level of the umbilicus, a very distinct emphysematous crepitation is felt; the latter extends to the sides of the trunk. Under the emphysematous portions of skin, throughout the same extent, is felt a rather thick, moderately hard, infiltration, which apparently lies behind the abdominal muscles. General condition is excellent.

The temperature was, on the 25th of June, 38.2° C.; on the 30th it was 38.4°; and on July 4 it was in the evening 39° to 39.8°. July 5, the emphysematous crepitation, which had become indistinct during the last few days, is no longer perceptible. The exudation in the abdominal walls remains unchanged; on both sides, close to the uterus, in the parametria, exudations of the size of a goose-egg can be detected, which stand in direct connection with the infiltration of the abdominal walls. From this time on the temperature remained normal.

July 8. In spite of treatment directed to cause absorption, the exudate has not become essentially smaller. Patient discharged.

The condition which was discovered on June 28, on changing the dressings, was a very surprising one. The occurrence of an extensive exudation in the anterior abdominal wall, and in both parametria, after a laparotomy, with opening of the latter, is in itself nothing incomprehensible. The occurrence of the cutaneous emphysema, however, has never yet been observed, and is nowhere described, so far as I am aware.

The question at once arose whether both complications were independent of each other, or whether both were consequences of the same cause. We decided that the latter was the case, and concluded that in some manner, quite inexplicable to us, air had passed into the subcutaneous, and, perhaps, also, into preperitoneal tissues, and that the exudations had developed, excited by the micro-organisms introduced with the air; the coincidence of the extension of the emphysema with that of the exudate led us to this opinion.

The manner and way in which the air could have penetrated the

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abdominal walls remained an enigma to us, and all suppositions which we could entertain on the subject were highly improbable.

A second case, which I observed some weeks afterwards, gave us the desired explanation.

On August 31 I performed a simple ovariotomy on Mrs. H. in the customary manner. The abdominal wound was closed, as described above, with deep silk sutures and superficial catgut stitches. At the moment when I wished to apply the gauze dressing, there occurred violent efforts at vomiting, and, before our eyes, a cutaneous emphysema was rapidly developed, which, starting from the right of the wound, quickly lifted the skin between the symphysis and the ilium in great air-blisters. The assistant, by pressing both hands flat on the skin, prevented the further extension of the emphysema, while I reopened the lower third of the wound; the air was removed as far as possible from the subcutaneous tissues by stroking with the hand, and after some air had been removed from the abdominal cavity by pressure, the latter was again closed. The course of convalescence was completely normal, except that the patient vomited to a surprising degree on the first day. Not considering an elevation of temperature of 38.6° C., with a pulse of 124, on the second day, the patient was completely free from fever.

She recovered rapidly. On the tenth day the compress was removed, the sutures were taken out, the wound was found completely healed by first intention.

No exudation was discoverable; the cutaneous emphysema was clearly demonstrable on the right, but much less marked. On the 19th some emphysema is still discoverable; the patient is discharged in the best of health.

After we had seen the cutaneous emphysema originate before our eyes in the second case, we had no reason to doubt that the ætiology of the first case was similar. The only question is whence the air came, and how it could force its way into the abdominal wound.

In both operations, — although in these cases, as always, an attempt had been made to remove the air from the abdominal cavity, — some of it must have remained in the abdomen, and by efforts at vomiting it must have been forced into the subcutaneous cellular tissue, and into the preperitoneal tissue. That the air was not forced out through the abdominal wound which had been sutured, but that it only could be driven in between the layers of the abdominal walls, is accounted for by the fact that the abdominal wound was united externally by sutures lying very close together, while internally, as I have frequently been able to determine at autopsies after laparotomy, the peritonæum and preperitoneal tissues often

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stand apart where simple deep sutures are used, and seldom lie in such exact apposition as the external skin.

The penetration of air into the subcutaneous cellular tissue and the development of cutaneous emphysema is not free from disadvantage. Of course, such an extensive emphysema could never occur, as is seen in cases of surgical injuries of the lungs, or of the cavities of the skull communicating with the respiratory tract, because the quantity of air retained in the abdominal cavity is always relatively small; but very frequently with cutaneous emphysema there are associated inflammatory symptoms, which in our first case led to the formation of a great exudation, and which seldom are so completely absent as in our second case.

The avoidance of this evil must, therefore, be made a part of the duty of the operator, who must find therein another reason for carefully removing any air remaining in the abdominal cavity, by pressing and stroking, before closing the wound.

PUDENDAL HEMORRHAGE.

JOHANN FLINTERMANN, M.D.

Mr. President and Members of the Gynecological Society:—

THE subject of my paper — pudendal hemorrhage — will not develop anything new; no brilliant pathological theory follows the modest report of a few cases which have come under my observation; but the rare occurrences of such injuries called by this name was the cause of selecting this topic in order to have a thorough discussion of it. The anatomy of the parts involved in the peculiar lesions is familiar to every one dealing with the diseases of women. The terminology is, of course, not very exact in describing what belongs to the pudendal region. In the different hand-books the descriptions given are not in conformity with each other. Reading the reports of pudendal hemorrhage, one very often fails to understand what lesions come under the head of pudendal hemorrhage. Leidy and Hyrtl describe the vestibulum, that part of the external pudendal parts that is situated between the labia minor, clitoris, and introitus vaginæ. Henle, in his celebrated work of systematic anatomy, says: "That part of the pudendal parts that is situated between the commissura anterior, inner surface of nymphæ, and fossa navicularis or commissura posterior rimæ, in front of the introitus vaginæ, is the vestibulum. The writers on gynecology do not give many details in pudendal

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hemorrhage, and the few that do so — as, for instance, G. Thomas — include under such name all traumatic injuries of the space between labia majora, labia minora, clitoris, the introitus vaginæ, and commissura anterior, which give rise to profuse hemorrhage. But as I only intend to report the cases which came under my observation, I have to state that the three cases to which I attended showed singularly always a traumatic injury of the space which, according to Hyrtl, is the vestibulum; namely, the region between clitoris, inner surface of nymphæ, and introitus vaginæ. Thomas relates cases in which wounds of the inner surface of the labia major caused severe hemorrhage. This author, who speaks of cases of pudendal hemorrhage as a very rare occurrence, reports only two cases; one, according to the report, being caused in consequence of puncture of the labium by a stick, the woman falling in crossing a fence; the other, a similar puncture, by a piece of china from the breaking of a *pot de chambre*. Thomas mentions in connection with these two cases of his own observation another one published in one of the journals of the time when he made his report: A lady, standing upon a chair to mount a horse, slipped and fell, so as to cause the sharp extremity of one of the upright pieces to puncture one labium. In this case bleeding was very profuse (and now there is a passage in the report which I want to give in his own words), "and so obstinate as to require several attempts at checking it before it was finally controlled. This was in the end accomplished by a tampon in the vagina and firm compression by a T bandage."

Bleeding was in all cases under my observation, and according to the cases published in the journals, very profuse, — so profuse as to threaten a fatal result. The cases which I saw were of pure traumatic injuries, and I do not know whether their nature was in any way modified by a predisposition of injured parts by previous disease or constitutional peculiarities of the persons under observation. Every one of the women were married, and had borne children; two were in the age between thirty and forty years, one nearly fifty, but not beyond the change of life. Lesions headed under the name of pudendal hemorrhage are important for various reasons: 1, because the nature of the difficulty is very often overlooked; 2, the parts injured are provided with a vascular tissue, known under the name of erectile tissue, beside the numerous blood-vessels of this region; 3, the reluctance of the injured persons to undergo a careful examination, being always inclined to look upon the hemorrhage as an untimely menstruation or as an accident that is not caused by a real wound of the vascular parts of the regio pudenda.

The first case that came under my observation was that of a lady nearly 50 years old. She fell from a chair which she had mounted in order

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to clean gas chandeliers. Immediately she fainted, was brought to bed bleeding profusely, wetting her clothes. When I saw her she was pale and pulseless, falling from one fainting spell into another. Trying to find out the real nature of the difficulty, the patient refused every examination that would expose the pudendal parts. I advised, therefore, recumbent posture, application of ice, extract of ergot internally. The relations were informed that this treatment was not sure to check the bleeding, which continued for an hour, blanching the patient and making her so weak that she finally allowed me to examine the injured parts, where I found a wound extending above the orificium externum urethræ in a horizontal line through the whole space between the labia minora, blood oozing from the wound profusely. Parting the labia majora and the nymphæ, and keeping them in that position by the fingers of the husband, I succeeded in applying three stitches, which, when they had properly united the edges of the wound, stopped the hemorrhage, and led the patient from that moment to complete recovery. The wound being in the immediate neighborhood of the urethral region led me to believe that I had to deal with the bleeding from two small arteries which are situated here.

Another case was seen by me six months ago, when a woman, 39 years old, widow, mother of several children, fell from a chair in a similar manner as in the first-described case. Bleeding was very profuse; patient's clothes soaked with blood when I saw her. Examining the parts I found, after parting the nymphæ, the mucous membrane of the vestibulum bleeding from a wound running from the lower surface of the clitoris, parallel to the right labium minus, near the external orificium of the urethra. Blood poured from the wound in a tremendous quantity. Firm pressure with dry absorbent cotton enabled me to check the hemorrhage temporarily. After having cleansed the wound, and applying three stitches, — two in the immediate neighborhood of the orificium externum urethræ, one going directly through the spot of a spurting artery, — the bleeding stopped. I had to empty the bladder, during a week, with a catheter. At the end of the first week after the accident, bleeding returned just at the time of her usual menstruation. Dr. E. Jenks, who saw on that day the case with me, put a new stitch through the lower end of the wound, which had the desired effect of checking the hemorrhage.

Case No. 3 did not come exactly under my observation; but as I have examined the patient afterwards, I should be entitled to report it in connection with the two cases. Mrs. Z., trying to mount a shelf, put one foot on a barrel covered by a board, when the other foot rested on the shelf. Lifting the foot on the shelf, the board on the barrel gave away, and she fell so that she injured the pudendal part on the sharp edge of the

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barrel. She had tremendous hemorrhage, was put in bed, and treated by medicine. When I saw her, a few weeks after the accident, the scar left from the wound caused by the accident ran in a horizontal direction across the vestibulum, above the external urethral orifice. Recovery was very slow in this case. She had to suffer for months from consequence of excessive loss of blood. Besides, the patient suffered terrible pain every time she had to empty her bladder.

The treatment of cases of pudendal hemorrhage is not a very difficult one; the circumstances in connection with the accident make it more troublesome than the nature of the accident lets us expect. The practitioner is called suddenly, often without having been informed of the true nature of the case. The parts involved in the lesion are very vascular, the anatomical condition demands prompt action, which, without proper assistance and preparations, becomes very often a disagreeable affair. But in all cases do not lose time in trying to check hemorrhage by applications of ice, astringents, recumbent posture, and bandage; examine the bleeding parts carefully, catch a spurting artery, unite the edge of the wound by a few stitches, clean the parts from the blood, empty the bladder the first few days, and follow antiseptic measures, as every intelligent physician will do. The chief point is, in all such cases, to demand an inspection of the injured parts, to apply the means recommended, and the result will always be favorable. Hemorrhage, no matter where or when it occurs, whether in obstetrical or gynecological practice, demands every time a careful examination to detect the true cause of the hemorrhage. Hundreds and hundreds of cases run a fatal course. Post-partum hemorrhage, placenta prævia, and heaven knows what other afflictions are reported, as well as menorrhagia, change of life, etc., where a careful investigation would have shown the true state of affairs. It is the triumph of modern medicine to go into the details of every case, — not to rest satisfied with a superficial diagnosis. No discovery in natural science or medicine has ever been made without the hard work of incessant observation and mental exertion.

The cases which I have reported were very simple ones; but at the same time, in one case the danger of losing the patient by a "*laisser aller*" was very imminent. If you take hemorrhage in obstetrical practice, the question of deciding the true cause here is not always put. A large number of women die — and nobody knows why they die — from hemorrhage, because obstetricians are used to look upon every case of hemorrhage as caused by everything but traumatic causes. Dr. Lomer, of Hamburg, refers to a case where, after an operation of version for breach presentation, a profuse hemorrhage occurred, supposed to be due to

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an atonic state of the womb, when, after an examination of the parts, a lesion in the neighborhood of the orificium urethræ was found. A few stitches checked the bleeding.

Another frequent cause for the hemorrhage in question is the impetuosity of the first coitus. One case is reported by the same Dr. Lomer, when he was called to a newly married lady, swimming in blood; the urethra was severed circularly from the pubic arch, one small artery spurting. By sutures the wound healed rapidly.

CORRESPONDENCE.

To the Editor of the Annals of Gynæcology: —

Sir, — In reply to my criticism of the methods employed by Dr. Manley in his management of a case of intra-uterine fibro-myoma, as published in the issue of your journal of January, 1889, that gentleman has made some statements, and cited some authorities in support of his practice, which I cannot admit to be accurate or relevant to the matter under discussion. But first let me say, that if my comments seemed to be "bitter, unkind, and sarcastic," I wish to express my sincere regret, for it was far from my design or expectation to wound the feelings, or sneer at the efforts, of one who was evidently acting in good faith. But at the same time I felt that what was, in my humble opinion, an unsurgical procedure should not be advanced as proof that the so-called "general" surgeon is to be ranked as one fitted to practise gynæcology on that testimony alone, — one successful case. I must respectfully deny that I criticised Dr. Manley for not referring his case to a specialist, or that I denied the ability of the "general" surgeon to perform gynæcological operations; but I *did* state that if the treatment adopted by Dr. Manley was to be considered his best argument in support of his views in regard to the gynæcological skill of the "general" surgeon, there could be no more convincing proof that "he should be warned off the domain of gynæcological surgery" than that very same argument. I distinctly stated that I was not one of those who would protest against his admission to such domain, unless he showed himself not to be prepared by observation of the methods of experts, and by intelligent study of the principles on which those methods are based, — practically those of "general" surgery. My remark as to the timidity and recklessness of "general" surgeons was specifically applied to "*dabblers*" in gynæcology, — to those who have taken no pains to investigate the methods which have been found to be

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the best by men who have given their whole professional attention to the treatment of a certain class of diseases. I can see no difference between the "general" and the gynæcological surgeon, other than the fact that one has devoted himself to a limited field of operative work, while the other has, from lack of opportunity or interest in such work, given his attention to other matters. Far be it from me to deny the ability of the "general" surgeon to operate as skilfully as any specialist, if he have a distinct idea of the requirements of the case, and of the technique of the operation he is to do; and I am also rash enough to maintain that a gynæcologist would show average operative ability if he were to ligate the carotid artery, or do a lithotomy on a male patient. Surgery is surgery; and those whose experience is large in a certain class of operations *must* be more skilful than those who only semi-occasionally attempt those procedures. My criticism of Dr. Manley's course was plainly indicated in my letter to be in respect to his delay in removing a putrid mass from the uterine cavity *after unequivocal symptoms of septicæmia* had made their appearance; which course I hold to be in direct violation of the fundamental law which governs *all* surgery, "general" as well as uterine. The liberal use of douches unquestionably saved the patient; but possibly repeated soakings of the wood-work of a house might save it from destruction when the coal in the cellar was on fire; but no one would treat the fire by carefully raking away the ashes from the coal-bin until all the coal was consumed, especially when the floor-beams were charred and smoking in spite of the throwing of water upon them. The poor general condition of the patient made such treatment all the more unsurgical, as she was more liable to succumb to septic poisoning than if strong and well. I must also reiterate my opinion that the result was almost miraculous, — recovery of an exhausted, exsanguinated woman after nearly three weeks of steady exposure to septic poisoning; and one who could pass safely through such an ordeal would certainly have very easily withstood the shock of complete removal of a *pedunculated* growth, or what remained of it at the time septic symptoms appeared.

The cause of gynæcology as an established and *bona fide* specialty needs no support from me against the truly remarkable allegations which Dr. Manley has made in regard to its decline and impending fall; nor is it else than a waste of time to ask what surgical literature is unfamiliar to those who fondly dream that gynæcologists have, in a few instances, established what is regarded by many as "*enduring* and *substantial*" in the progress of "*female lesions*," whatever such may be. But it may be pertinent to remind Dr. Manley that the dying specialty is seized of a fairly large estate, which comprises a few securities which are not related

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to ovariotomy or even abdominal section. The former operation was almost universally performed only as a last resort, until gynæcology showed the surgeon the proper technique and time for operation, and this opened the way for other abdominal operations. And this *only because the operators were specialists.*

But I fail to see the connection between the death-throe of gynæcology and the advisability of non-interference with a sloughing, pedunculated, intra-uterine fibroid in a septicæmic patient; nor do I grasp the bearing on the same question of the melancholy fact that a visit to our almshouses will reveal the utter ruin of health caused by "*ill-advised*" (italics mine) gynæcological operations. I must also admit my inability to compass the means by which the same unnecessary operations can be productive of "lesions of *every kind and description*" (italics mine). At all events, even if Dr. Manley has found such to be the case, he should not condemn a specialty because some who *dabbled* therewith should have displayed poor judgment or lack of dexterity in their "ill-advised" operations. As well condemn "general" surgery because a urethro-rectal fistula has been known to be a sequela of urethrotomy!

One more argument which Dr. Manley advances in support of his action is, that he sought the advice of a specialist in diseases of women in regard to his case, — though he had not seen fit to state this fact before, — and was told that the growth was intra-mural, and as the patient was in bad condition nothing could be done. But after dilating the os and the discovery of the pedunculation of the growth, this being done *after a month's rest in bed*, the real treatment began. If the subsequent treatment was advised or countenanced by the consultant, I wish to transfer my criticisms from Dr. Manley's to his account; but as the former has posed as the operator, I am not afraid of having "attacked" the wrong man. Further, Dr. Manley says that the patient had been *sent away* from the Woman's Hospital after examination by the surgical staff *five years* before, being informed that nothing could be done for her. In his original report he says that she had had one polypus removed, but as the uterine enlargement returned within a year, and as "*she was loath to undergo another operation* when she could get no assurance that the growth would not return, . . . she *went on* with her household duties" (italics mine). It seems to me that a discrepancy can be found in these two accounts. Surely Dr. Manley knows of the great change which may take place in an intra-mural fibroid in five years' time. Then Dr. Manley objects to my quotation of his own words as to his inability to account for "the *dropsy* in my patient's limbs" (italics mine), and as a proof that a skilled specialist and authority confessed to the same inability, quotes from

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a paper by Dr. J. M. Baldy, of Philadelphia, who mentions the troublesome *œdema* which he had noticed after *abdominal section* in some of his cases. Now the words in Dr. Manley's original report were: "The only unpleasant sequel of the tumor's removal being a *phlebitis of the left saphenous vein;*" and later on, "This latter trouble" (the phlebitis) "*developed coincidently with the operation*, but what *the pathological connection is I am unable to explain*" (italics mine). If a phlebitis of the left saphenous vein occurring in a patient with a sloughing uterine tumor and with marked septicæmia is synonymous in Dr. Manley's mind with "dropsy in the limbs" following ovariotomy, I have nothing more to say.

Now, one word as to the proof "*out of the mouth*" of my "chosen champions." I look at what is stated as Sutton's opinion, and find a description of Nature's method of removing a submucous fibroid — *its spontaneous expulsion* by sloughing and desintegration; at Emmet's alleged advice, and see a *résumé* of the ancient history of the subject, with a statement that it may be better to *run the* RISK of septicæmia by expectant treatment "*under certain circumstances*," the succeeding paragraph stating that the author considered partial removal *unwarrantable;* at the instances of Thomas' leaning towards septic uterine surgery, and see another summary of the views of Baker Brown, Simpson, Atlee, *et al.*, — men long in their graves, and who lived in pre-antiseptic times. Truly strange opinions to put into the mouth of the uncompromising enemy of peri-uterine inflammation and of the inventor of the spoon saw. But though many have advocated measures which imitate Nature's mode of enucleation, I do not find a single word in the quotations, ancient or modern, which *advocates* — not instances as having occurred — the piecemeal removal of a sloughing fibroid, *after septicæmia has appeared*, and that "care not to do too much" if such a case should be observed. If Dr. Manley can cite a single recognized authority who has *advocated* such a course within the last ten years, I will admit my stupendous ignorance of the literature of the subject. That Emmet never meant that such a course should be included "under certain circumstances," I am anxious to refer to that authority himself for judgment, as well as the views ascribed to Thomas to that gentleman for explanation. From personal observations of the practice of both of those apostles of enucleation during my service on the House Staff of the Woman's Hospital, I can inform Dr. Manley that they are intolerant of a septic focus in the uterine cavity, and regard as *imperative* the removal of such focus at any risk when constitutional symptoms of infection are only hinted at as imminent — and they are by no means alone as advocates of such treatment. I will state,

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in conclusion, that I have said all that I propose to say in regard to this matter. I have been honest and without malice in my argument, and leaving my case in the hands of the medical profession, I will bow to its verdict, be that for or against me. In either case I have said nothing of which I am ashamed. I shall make no explanation of my motive for writing anonymously, as the one whose mind cannot intuitively appreciate my reasons no explanation could enlighten.

JOHN S. HAWLEY.

NEW YORK, May, 1889.

[This must be the close of this discussion so far as regards this Journal. — ED.]

REVIEW — ELECTRICITY IN THE DISEASES OF WOMEN.

BY G. BETTON MASSEY, M.D.,

Physician to the Nervous Department of Howard Hospital; late Electro-therapeutist to the Philadelphia Orthopædic Hospital and Infirmary for Nervous Diseases, etc., etc. 13mo. pp. 210. Philadelphia and London, F. A. Davis, Publisher, 1889.

THIS book, embodying "what is believed to be the first attempt at a complete treatise on the electrical treatment of women," demands careful attention, not so much for what it contains, as for what it claims. In size it is a veritable David, attacking the Goliath of electricity, subduing him to his uses, and charging upon the other Philistines who doubt and dispute the results claimed by the "new" treatment. The doubts and denials of the opponents of the electrical treatment in gynæcology the author strives to meet by the citation of numerous cases, which are, as he observes in his preface, "more of the nature of a mirror of the author's daily work than of a classical research into the literature of the subject." Such a consideration of this moot question is eminently fitting. A real experience in this matter is worth more than volumes of theory, where theory and practice are so liable to conflict. To set those who would be well informed and rightly instructed in the details of this electric practice outside the chance of error, the author so advises: such a student must also consent to abstain from reading anything but the most recent works upon electro-therapeutics, as a certain result of a perusal of many of them is a failure to comprehend the present position of electrical science. This advice is open to the accusation of being narrow and exclusive. It would have been better to advise good collateral reading than to counsel general

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distrust. To the opponents of the electrical gynæcology it will be understood rather as adroit special pleading, than as sound advice; to those who would fain believe, it would be more satisfactory to be able to have a "reason for the hope that is in them." The further examination of the introductory chapter must, for the present, be delayed, for the obvious reason that it simply claims the adaptability of the electric current to the various forms of disease in women, without argument or attempted explanation. We will return to it later.

Chapter II., which considers the apparatus required in gynæcological applications of the galvanic current, is a necessary portion of the book to those who have never studied the elements of electric science. Its need in a book of this kind is undisputed. Too many, the majority of those who rush to this mode of treatment, do so without a preliminary knowledge of any kind, expecting to get results, as the organ-grinder gets his tunes, by turning a crank. The only two appliances here demanding notice are the author's current-controller, which is simple, and therefore commendable as an instrument to be trusted; the other, the "meter."

On this instrument, it seems to us, there is too much importance attached; first, because it is by no means settled that all milliampère meters are uniform in their registration of the current, and second, because in the author's own language (pp. 61, 65) the subjective appreciation of pain marks the limit at which the current should be reduced. He says: "The appearance of real pain should always be accepted as a sign for current reduction, and should lead to an immediate cessation of the treatment." If the meter is the *sine qua non* of the scientific application of the current, why not anæsthetize the patient, trusting to the instrument altogether according to its scientific merits, and thereby save the patient all pain and discomfort. As to the question of uniform registration, it has been authoritatively stated that Gaiffe's galvanometers register double that of Coxeter's.[1] In the same journal it is stated that currents "ranging from eighty to eight hundred milliampères were used on Apostoli's plan. We do not believe such registration correct.

Such a current is sufficient almost to give an ordinary electric light. After all, the question of uniformity in the registration of these instruments is of interest only as a measure of each individual to endure pain, since this is the limit of the application of the current. The directions for the use of the various appliances are clear and well stated, and should not only be studied, but understood, before their therapeutic application is attempted. The experiments detailed in Chapter III. are well adapted to show how the current is modified by the different conditions and surfaces

[1] Brit. Gyn. Journal, May, 1888.

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to which it is applied. Like the preceding chapter, it should be well tested and applied by the novice in electricity. Chapter IV. discusses the action of concentrated galvanic currents on organized tissues. Its initial experiment begs the whole question of the application of the current to fibroid tumors, by ASSUMING THAT THE ELECTROLYTIC EFFECT OF THE GALVANIC CURRENT IS THE SAME UPON THE LIVING AS UPON DEAD TISSUE (p. 39). The author reports the experiments of Inglis Parsons, Brit. Gyn. Journal, May, 1888, p. 71, and then goes on to say that "an actual transfer of particles in both directions takes place through the whole distance between the poles," attempting to prove his position by an experiment with a solution of potassium iodide.

In the paper of Dr. Parsons alluded to, the following conclusions are reached after numerous experiments, which have the merit of an honest attempt to arrive at the truth, and not to bolster up a theory by partial statement of facts: —

1st. Electrolysis takes place at both poles.

2d. That a chemical action secondary to the electrolysis also takes place at both poles, and appears to be most destructive at the positive pole.

3d. That electrolysis does not take place in the intervening space between the poles traversed by the current.

4th. That in all probability the transport of elements has some effect on the living tissue through which it passes.

5th. No change takes place in the vessels during the passage of the current, except a local hyperæmia, due to the chemical action at both poles.

6th. That no muscular contraction takes place in the uterus or tumor, except at the make and break of the current.

As to the fourth conclusion, the author previously said, in detailing his experiments: "The curious part is, the elements cannot be detected during their transit from one pole to the other. . . . It is, however, CONCEIVABLE that the complex molecule of albumen, when it undergoes decomposition by the current, furnishes a number of bodies that may have some very decided effect on those tissues they traverse, although such tissues do not apparently undergo actual decomposition in the same way that those in contact with the electrodes do. . . . This may appear a mere theoretical consideration." That such an action is "conceivable," is true in the sense that anything is possible to the imagination, by which a man may

> "Wallow naked in December's snow
> By thinking on fantastic summer's heat."

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That such an action, while not seen in a mere chemical experiment, where the current effects have full sway, ought to be admitted in the presence of living tissue, will hardly be received as a scientific fact until better substantiated. The author should not have quoted from Dr. Parsons at all, unless he was ready to acknowledge, as Dr. Parsons does, that this experiment proves nothing, and the whole matter is only "conceivable." To find that an author resorts to attorneys' methods in appropriating evidence confirming, and in evading evidence disproving, their side of a question, detracts from the scientific value of his production.

As to the action of the current in dead matter, it is preposterous that that should be assumed to be the same as upon the living substance. Microscopical examination of the tumor experimented upon by Dr. Parsons showed "the usual structure of myoma. This was the case with the portion that had undergone the chemical action produced by electrolysis." (Brit. Gyn. Jour., May, 1888, p. 78.) Further: "In this instance there was no difference in the destructive effects of the two poles" (*ibid.*).

Chapter V. has to deal with intra-uterine chemical cauterization (Aspostoli's operation). The chapter contains a full account of the instruments employed, together with the mode of using them. The directions are full and explicit. Here again, although the meter forms an important part of the equipment, we find that the appearance of real pain should always be accepted as a sign for current reduction. This caution is followed by a greater part of a page in the differentiation of the various pains and their causes. It would seem that so much attention to this feature is uncalled for, if, according to the repeated asseverations of Apostoli, there is no pain in the operation, even up to a current of two hundred and fifty milliampères.

Chapter VI. describes the operative details of pelvic electro-puncture. The instruments used in this procedure are described at length. Beyond this, only two or three points call for notice. First, that the best operators at present condemn any attempt at puncture through the abdominal walls; second, that if the tumor is large and cannot be reached in this way (through the uterine tissue), because of its slight connection with the uterus, no scruples should prevent a piercing of the vaginal wall and traversing of the peritonæum, if the instrument and vagina have both been sterilized (*sic*) as much as possible, and the important pelvic organs are avoided. If anything more dangerous than such advice as this has ever appeared in print, we have yet to meet it.

No abdominal surgeon could ever have conceived such a procedure, and its idea could only have originated in one accustomed to treat

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abdominal disease from the outside, and perchance who has never surgically dealt with an intra-abdominal growth.

What with adhesions, pressure, displacement, the danger of the procedure so complacently advised cannot be appreciated by one who has not seen them, felt them, dealt with them. Dr. Massey continues: "I have been compelled to adopt this latter plan a number of times, and have *not as yet* met with accident of any kind." His expression suggests anticipation; let him but continue, and without doubt his apprehensions will be realized. The precautions necessary after pelvic electro-puncture are, that the patient be immediately put to bed, and that she remain there at least twenty-four hours.

It might have been added, in case the procedure just discussed has been followed out, that an abdominal surgeon be kept near at hand, also, for twenty-four hours.

Compared with the galvanic current, the faradic in this volume occupies only a minor place, save in its application to extra-uterine pregnancy. The chapter, therefore, in which this form of electricity is discussed needs no special notice. It has the merit of being generally harmless, and along with the franklinic variety considered in the following chapter has the advantage of being safe in the hands of the neophyte. Chapter IX., on the non-caustic vaginal, urethral, and rectal applications, is short, though amply long enough when we consider that the general verdict is that in strictures, especially of the urethra, the current is useless. The use of the current in stenosis of the os and cervix uteri is referred to by Apostoli, p. 114, as followed in some instances by cicatricial contractions which are just as liable to occur here, if any real action is present; if there is none, the treatment is useless. Chapter X. has no special relation to gynæcology, and will not be discussed.

Chapter XI. ushers in the treatment of fibroid tumors of the uterus by electricity.

This and the remaining chapter of the book are of interest, specially by reason of the detailed account of cases they contain, by which the author's work can be viewed as in a "mirror," and its value estimated by his own showing. To fortify his position, p. 107, he makes lengthy quotations from Apostoli, covering ten full pages. With this, or with Apostoli, it is not our purpose to deal, save only incidentally.

One observation, however, is necessary: At the meeting of the American Gynæcological Society in September, 1887, Dr. Apostoli, when asked, Have you ever seen a tumor disappear under your treatment? replied, "I have not." On p. 117 of Dr. Massey's book he (A.) says: "It is now six years since I have begun the practice of this method. . . . I can

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affirm the relapses have been truly exceptional." He has caused no tumor to disappear, yet the relapses are exceptional, and in the mean while has abandoned one treatment, simple electrolysis, for another, electrolysis with puncture. If the first were so satisfactory, why did he abandon it? If the new procedure is the only correct one, why not confess his former claims to be without foundation? Apostoli may shift his position, but the electric current steadily flows on. In the argument for the treatment of uterine fibroids by the electric current, the cases of Dr. Mary P. Jacobi (Am. J. Ob., August, 1888) and of Dr. Holland (Brit. Med. J., Jan. 7, 1888) are cited. They both are examples of special pleading, do not show that the tumors were in the least changed by the passage of the current, and only demonstrate that the current may set up uterine contractions, and aid in the expulsion of fibroid masses, just as is often done by ergot, without a tithe of the dangers undergone, especially by Dr. Holland's patient. Dr. Massey would have rendered the readers of his book a real service, and at once have proven himself willing to face facts, had he acknowledged that the fortunate termination of Dr. Holland's case was simply an accident; that had the tumor happened to be nearer the peritoneal coat, it *must* have infallibly killed the woman, and that the dangers she encountered could have been no greater in nine cases out of ten in hysterectomy, the *bête noir* of electricians. Greenhalgh's actual cautery would have been no more dangerous than was electricity in this case, and would probably have done as well. It could have had no worse record than had the three hundred milliampère current, with its sloughing, fetor, rigors, and rise of temperature.

In the cases recounted by the author as benefited by the electrical cauterization, some show beneficial results, while others are far from encouraging in their history. Case I., p. 130; says: "Small submucous fibroid, associated with hypertrophied uterus and amenorrhœa." The question is, whether with a fibroid enlargement of the uterus, with fibroid growth, there is ever "amenorrhœa." The tumor was as big as a "shellbark," and submucous. We ask, could it not have been removed at one sitting by ordinary surgical means? Case II. is still under treatment, as are most of the others of fibroid disease of the uterus. It is in these cases, if in any, that Dr. Massey has gotten results; though even here, what he has done by electro-puncture has been more safely done by other means. The test point is, not whether electricity can diminish a tumor, but whether it can accomplish this more speedily and safely than other means at our command. As to subperitoneal fibroids, Dr. Massey is utterly inconsistent with himself in quoting Dr. Holland's case as a success. If a patient with an intra-mural fibroid barely escapes with her

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life, owing to suppuration and sloughing, how much less will she have chance to escape if the tumor be subperitoneal. That this form of tumor is less amenable to the current, owing to its remoteness from the method of direct treatment, does not bespeak much faith of the author in his own affirmation of the curative effect by "the transport of elements." In none of these cases, then, is there a cure. Herein the author's experience agrees with Apostoli's. The electrical treatment of uterine hæmorrhage, Chapter XII., shows how easy it is to have entire belief in one thing, when one knows or sees nothing else. "Beware of the man of one book," might be paraphrased, "Beware of the man who rides a hobby." In Case VIII. there is a history of acute menorrhagia after miscarriage. Dr. Massey has this patient under treatment for three and a half months, at intervals. Had he forgotten he had a battery and an electrode, and scraped the uterus, his patient would have been well in three days.

Case IX. is a repetition of Case VIII., and three weeks are consumed, when as many days would have sufficed to cure the patient. Case X. has no history, and is valueless. Case XI. reads thus: "Menorrhagia from retained secundines of five months' duration," etc. "Examination reveals uterus small, position normal, os small, vaginal surface healthy. Sound enters two and a half inches and reveals a tender fundus." What strikes the practical gynæcologist in the treatment and examination of all these cases is the indiscriminate use of the sound. If a uterus is small and in good position, there is no need to introduce the sound; and where it is enlarged, the fact is readily discoverable without it. Further, if the hæmorrhage were due to retained secundines, we do not understand how the uterus could be small. But grant all this to be true, the proper way to deal with retained *débris* of abortion is to remove them, not to toy with them for seven weeks, as was done in this case, subjecting the patient every day of that time to the danger of pelvic inflammation, with accompanying tubal and ovarian complication. Chapter XIII. deals with the electrical treatment of chronic endometritis and endocervicitis. Here again we find that the current is a cure-all in these affections. The weak point in the whole argument is, however, that it explains everything, treats every complaint, by electricity, as if all therapeutics else could be abandoned. The "ultra-mechanical methods" (*vide* preface) have been superseded by the ultra-electrical methods. The truth is, these affections are oftener the result of displacements and flexions and the consequent engorgement of the uterus than otherwise, and are speedily relieved by the correction of these. Case XII. is one in point, though the hypertrophy said to exist must be questioned, the introduction of the sound showing a length of only two and a half inches plus.

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After the first application of electricity in this case, the uterus is recorded as "softer." Is Dr. Massey a gynæcologist? Does he record a soft uterus, unimpregnated, as normal, or as a step toward a cure of inflammatory condition? The argument that diseased and degenerated tissue is best removed by electricity, when simple surgical removal will accomplish the end more speedily and just as safely, is the innocent suggestion of gynæcologic inexperience. Nor is the suggestion so innocent as it seems, seeing that Apostoli (p. 114) confesses to have caused cicatricial stenosis — cicatricial atresia, as he terms it — by this very method. Nevertheless, he will have us believe that such atresia is not accompanied by dysmenorrhœa. We can imagine only one time and condition at which this is worthy of credence, — the menopause. "The new electrical treatment of erosions and ulcerations" is no more logical than any misconception that does not know that apart from cervical lacerations and fissures such conditions do not exist. Treatment may benefit them temporarily, but if due to lacerations they will return. As for the electrical treatment of Nabothian cysts and infiltration of the cervix, simple puncture, with the consequent abstraction of the blood, will do all that the mysterious current can claim much more rapidly and effectively.

The remaining cases, with one exception, will be omitted. They prove little, and are without real value, because failing in essential points as to causation of the condition they detail, they render a comparative estimate of other treatment impossible. Case XIV. is interesting from the fact that, although malignancy was suspected, no microscopic examination of the cervical tissue was made. We question, however, whether beyond this, ordinary surgical attention would not have yielded more satisfactory results, because permanent, than the application of the electric current. No laceration can be *cured* by electricity.

In Chapter XVI. the author advocates the application of the current in subinvolution, uterine hyperplasia, and pelvic indurations.

For the first two of these conditions there is reasonable expectation of accomplishing much good by the use of the current. As to the last, any attempt to melt away pelvic adhesions and indurations, other than simple congestion, is futile and harmful. No one who has ever by main force broken up these pelvic adhesions would suggest its use, much less tamper with it. We have had the misfortune to be asked to operate after its application, and know whereof we speak. If simple inflammation coexists with chronic adhesions, this may be relieved much more safely by the ordinary applications. So far as simple pelvic pain is concerned, this may arise from so many causes, that to say all such pain is amenable to electric treatment is simply electric frenzy. When we find acute peri-

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tonitis yielding to simple purgation, why claim miracles for electricity? For simple nervous affections, amenorrhœic or dysmenorrhœic, the stimulation of the electric current is often an important aid in the treatment, though it cannot be confessed for a moment that these conditions are amenable to it alone. It is simply one of the remedies. As to the abuse of the uterine treatment in virgins, we agree with Dr. Massey that it is wrong. There is no excuse or reason for vaginal treatment in the young woman, unless a rectal examination shows a condition requiring it. Dr. Massey's protest against operation for pain loses nothing by being an echo of the cry of conscientious men who have long since denounced any pelvic operation, unless under exceptional conditions, for mere pain.

As to the treatment of acute inflammatory affections, the author, while holding his own and Apostoli's views to be in harmony, evidently is ignorant of the fact that Apostoli (Brit. Med. Jour., May 12, 1888) advises the current just where Dr. Massey rejects it. Such disagreement is, to say the least, unfortunate. The chapter on the use of the current in extra-uterine gestation is too short to be valuable, and will strike the average surgeon as unsatisfactory. The writer evidently is at sea as to the history of extra-uterine pregnancy, both before and after rupture, though when he presupposes and speaks of the diagnosis of the condition previous to rupture, as if it were the easiest thing in the world, he is not without company. Guessing, nevertheless, is not diagnosis. It only requires a knowledge of the errors of the men who claim the most in regard to exact diagnosis of ectopic gestation to perceive that their infallible detection of this condition is a myth, and that therefore the use of the current is only tentative, unsafe, and unsurgical. It is especially unsurgical if, after the use of electricity, it is intended to open up the abdomen and remove the fœtus. To first play with the current, then work with the knife, although Dr. Massey's suggestion, will hardly receive the intelligent approval of those not operating in the experimental line. The two sole contra-indications to the use of the current which are mentioned, barring that referred to above, are papillomata and ovarian cysts. Like the messenger of Job's disaster, they alone are left to tell the tale of abdominal surgery.

By this it will be seen that the book which started out with fair prospects of conservatism has drifted helplessly into the electric vortex, and what was bespoken a "mirror" of work and accomplishments has proven a mental mirage, which, though seductive in the beginning, is only disappointing in the end. The claims for the universal application in all the diseases of woman's flesh, set forth in the preface, find no realization in fact, and by promising all and performing little or nothing, they leave us

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most in doubt where it is to be regretted that the most has not been proven; that is, in the treatment of fibroids.

All in all, the book is disappointing. To those who have had actual gynæcological experience, it will be a fresh reason for them yet to cling to their beliefs founded on the evidence of their senses, and to refuse to work by faith. To those tempted by the allurements of an enthusiastic electrician, without other gynæcological knowledge for ballast, it will be a temptation, because promising much, and a snare, because fallacious.

By such, the book should only be read under instruction, or not at all.

The publisher has brought out the volume — neatly and attractively. It is singularly free from defects of any kind, and, while coming from a city where *good* book-making is above the average, it falls not one jot behind in artistic merit.

J. P.
J. H.

THE FALLOPIAN TUBE.

The diseases of this organ have assumed such preëminent importance in gynæcological literature and practice, that a study of the normal and morbid histology is both interesting and useful.

As a slight contribution towards a better comprehension of the subject, we present in this issue some photographs of the normal tube (Plates I.–III.), and one of this organ in a state of chronic salpingitis (Plate IV.).

The changes in the tube in the latter condition will be shown in the next number by photographs made with a higher power. It will be seen that the changes in the lining of the tube in chronic salpingitis resemble closely the alterations of the uterine mucous membrane in chronic endometritis, especially in the formation of glandular pockets, which penetrate into the muscular tissue of the tube (Plate IV.).

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OBSTETRICAL SOCIETY OF PHILADELPHIA.

FRIDAY, MAY 3, 1889.

THE president, Dr. THEOPHILUS PARVIN, in the chair.

Dr. B. C. HIRST: Laparotomy for Intestinal Obstruction.

The following case is reported, not because it is an especially rare and interesting one, but because it so clearly emphasizes the importance of early operative interference whenever indubitable symptoms of intestinal obstruction manifest themselves.

Mrs. F., æt. 46; seen in consultation with Drs. Prendergast and Ziegler; she has always been constipated; about five days before I saw her, she had taken a number of aperient pills, as she had not had a passage for some days before. The medicine was without effect in moving the bowels, but caused intense abdominal pain. Three days afterward stercoraceous vomiting began. The gentleman in charge of the case had injected large quantities of water into the bowels without result; no purgative medicine, however, had been administered. We finally agreed to try an injection of glycerine. This was followed by the evacuation of quite a large portion of well-formed fæces. Hoping that we had at last overcome the obstruction, concentrated solution of salts was administered in small doses frequently repeated. This had had barely time to act when profuse fæcal vomiting again appeared. An operation was then, of course, determined upon, and performed late at night, with the valuable aid of Dr. Jos. Price's technical skill and good advice, assisted also by Drs. Prendergast and Ziegler. The small intestine was occluded by a mesenteric band so tightly that not a particle of fæces could go through. The proximal portion was enormously distended and congested; the distal portion for a length of about eight inches was almost black in color, and looked already gangrenous. The band was easily divided. The distended gut was punctured, and a basin full of liquid fæces evacuated. The opening was most carefully sewed up. The discolored portion of the gut was watched for about twenty minutes, while the circulation gradually returned to it, and its appearance much improved. The abdominal wound was then closed and dressed. The whole operation, including the time consumed in watching the strangulated portion of intestine, lasted but thirty minutes. The woman's condition was fairly good afterward, but she soon began to sink, and died of exhaustion thirty-six hours later. The case was complicated by the worst nurse, in the person of a religious sister and relative of the patient, that I ever came in contact with.

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Had the operation been undertaken as soon as stercoraceous vomiting appeared, in all probability the woman's life would have been saved. The delay, however, under the circumstances, was natural, and the belief that the obstruction had been overcome seemed justified. The lesson, I think, that this case should teach, — the lesson, at least, that it has taught me, — is to open the abdomen as soon as stercoraceous vomiting occurs; the operation may occasionally prove unnecessary, but then little harm will have been done; more often it will rescue the individual from impending death.

Dr. H. A. KELLY. — I recently operated upon a similar case, *in extremis*. An old woman had had stercoraceous vomiting for many days, and was prostrated with a tympanitic abdomen, a very rapid pulse, and a deeply furred brown tongue.

I found, at the abdominal section, that the small gut was contracted down into a small cord from the ileo-cæcal valve eighteen inches up.

A prolonged, waiting, do-nothing policy in the hands of an ignorant practitioner had done the work.

If the operator is to give himself and the patient a chance, these cases must be seen early.

Dr. JOHN B. DEAVER. — I have seen a number of cases of obstruction of the bowel, and it is astonishing with what freedom physicians will administer aperients in these cases. Dr. Hirst speaks of giving concentrated solution of salts. I recently saw a case where the physician had given six drops of croton oil, and wondered why he did not get any movement of the bowels.

Treves, who has written the best article on this affection, plainly tells us that there are cases which call for large doses of opium from the commencement.

In regard to stercoraceous vomiting, I do not think that it is safe to wait for this symptom. We know that the most common form of intestinal obstruction, in the adult at least, is strangulation by a band. The next most frequent form is volvulus, and the most common seat of volvulus is at the sigmoid flexure. In these cases it is rather the exception to have stercoraceous vomiting until the patient is *in articulo mortis*. In the majority of cases where you have obstinate vomiting not allayed by simple measures, and with this constipation and the evidences of depression, these symptoms will warrant the surgeon in operative interference.

Dr. J. PRICE. — I am surprised to hear a surgeon say that there is ever an indication for opium in bowel obstruction. I have seen a large number of these cases, but I have never recognized an indication for opium save in a dying patient. It is just these large doses of opium

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which render the surgeon absolutely powerless. Scarcely a surgeon dares work after a large dose of opium has been given. He is called to see a patient where the physician suspects obstruction. He finds a comfortable patient with all the symptoms masked. It would be impossible to induce such a patient to submit to operation, the only thing that will save his life. Diagnosis should always be made, where possible, before administering an opiate.

The case reported by Dr. Hirst has many points of interest. It was unquestionably a chronic case of obstruction. The bowels were filled with fæces and gas. It is in these cases where the patients are dying from fæcal poisoning and shock, that we must minimize every detail in our operations. They cannot stand a prolonged operation and manipulation of vital viscera like the intestines. Nor will the condition of the viscera permit the introduction of sutures. The suture tracts will become gangrenous. The operation must be performed as quickly as possible. Sometimes you can do nothing more than make an artificial anus with drainage of bowel contents. In this way you may save life and be able to perfect the cure at a later period. The methods of Senn, and one or two gentlemen in New York, by means of disk and ring methods for forming intestinal anastomoses, are valuable and rapid, and will no doubt contribute much to perfect intestinal surgery.

Dr. J. C. Da Costa. — With all due deference to want of success Dr. Price has had with opium, I may say that Mr. Treves is not entitled to the credit of this treatment. If the old editions of Gross' surgery are examined, it will be found that Prof. S. D. Gross recommends opium in intestinal obstruction, and states that a number of cases have recovered under it.

Dr. J. M. Baldy. — With all due respect to Dr. Gross and to Mr. Treves, I do not think that we need be proud of the treatment of intestinal obstruction by opium. We know that intestinal obstruction has a greater mortality than any other abdominal disease. The mortality is simply frightful. Treves mentions two thousand cases as occurring in England alone. The use of opium in intestinal obstruction tends to increase the distention and obstruction already existing; and if the degree of obstruction was such that it might have been relieved, it spoils the chance. In addition, no one can make a correct diagnosis with a patient stupefied with opium.

I agree with Dr. Deaver that we ought not to give purgatives. If injections will not relieve the case quickly, we should not wait beyond obstinate vomiting, and stercoraceous vomiting should be absolutely the last symptom that we should wait for.

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Dr. JOHN B. DEAVER. — With all due respect to Dr. Baldy and Dr. Price, I cannot agree with them. This is an important and practical point, especially important to the young practitioner. Opium is called for until the diagnosis is made. In all of these cases of intestinal obstruction, it is difficult to make the diagnosis. We know that the paroxysmal pain of intestinal obstruction is due to peristalsis. We know that opium is not the cause of the distention; this is due to the obstruction. Where we have active obstruction, any form except *ileus paralytices*, opium is of service. Whereas I am in favor of the administration of salines in ordinary abdominal surgery, I cannot think that they are called for until we have made up our mind whether or not we have intestinal obstruction.

Dr. J. PRICE. — I have a case which I think will demonstrate the mistake of Dr. Deaver. Day before yesterday my brother was asked to see a patient in whom he suspected intestinal obstruction. He forbade absolutely the administration of opium for the relief of the paroxysms of pain, and gave large enemata. He obtained nothing more than a colic movement. In less than six hours fæcal vomiting occurred, and three or four hours later he did a section for the relief of a strangulated bowel. The bowel was almost gangrenous at points. Salines were administered and four movements followed. The temperature is now normal. The pulse under 90. This was an ideal case, and demonstrates the importance of a clear diagnosis and early work before the patient is dying of fæcal poisoning, collapse, and peritonitis. It matters not who first used opium, the cases all died just the same.

Dr. BARTON C. HIRST. — I agree with the criticism in regard to the administration of purgatives in these cases. We did not give the concentrated solution of salts until we thought that the obstruction had been relieved. It was given with the view of getting rid of the accumulated fæces. If there had been any idea that obstruction still existed, it would not have been employed.

CHARLES MEIGS WILSON. — Mary Matthews, a native of Ireland, 30 years of age, unmarried, pregnant with her first child, was admitted to the receiving ward of the Philadelphia Lying-in Charity, Dec. 29, 1888. At the time of her admission the membranes had ruptured, the os uteri was dilatable, and the customary prodromic symptoms of commencing labor were present. On the evening of the 30th of December active labor-pains commenced, and on the afternoon of December 31 she was delivered, after a normal labor, without instrumental aid, of a living child weighing six and one-half pounds. The placenta and membranes came away intact. There were, however, two slight abrasions, involving only the mucous membrane of the vulvar orifice, but no laceration of the

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perineal body. The abrasions were carefully dried after the labor was completed and touched with a ninety-five per cent. solution of carbolic acid. The hair surrounding the vulvar orifice was carefully cut away. The case was one thought to be free from any likelihood of septic infection. There was present at the time of her delivery no septic case in the house—all the temperatures of the other puerperal convalescents being under 100° F. The history of the case subsequently ascertained developed the fact that she had had a purulent gonorrhœal discharge during the last five months of her gestation. Upon her admission to the hospital she was given the customary warm bath and a vaginal injection of a litre of a $\frac{1}{2000}$ corrosive sublimate solution. The vaginal injection was repeated when active labor-pains commenced. The usual rigid aseptic precautions were faithfully followed out by my resident, Dr. Francis Weidner, after her labor. She had no rise of temperature until the evening of the third day, when, without chill or chilly sensation, her temperature went up to 102$\frac{1}{5}$° F. The uterus was at once curetted with negative result and irrigated with two litres of a $\frac{1}{2000}$ corrosive sublimate solution, and the patient placed under the influence of antipyrine. This treatment seemed to modify the temperature, which varied for the next seventy-two hours between 99° F. and 101° F., after which it vibrated between the normal point and 100° F. On the morning of the fourteenth day a small indurated mass was noticed by Dr. Weidner in the right inguinal fossa. Counter-irritants were applied and hot fomentations, and the patient placed under the influence of quinine and whiskey in large doses. The swelling increased in area day by day. On the morning of the seventeenth day of puerperal convalescence, the woman was suddenly seized with a violent chill lasting fifteen minutes, and followed in half an hour by a rise of temperature to 104° F. I saw her about an hour after the chill had occurred. She had a worried, anxious look, was in a colliquitive sweat, and presented all the evidence of profound septic intoxication. With the assistance of my friend, Dr. Noble, who agreed with me, upon inspection of the case, that we had either a tube or an extra-peritoneal depot of pus which must be evacuated, I at once had the patient prepared and put upon the operating-table. Vaginal examination conjoined with abdominal palpation revealed extensive induration of the right iliac fossa, which was rightly judged to be an extra-peritoneal abscess. An incision midway on a line drawn from the anterior superior process of the right ilium and the umbilicus, one inch in length, was made until the peritonæum was reached. Careful palpation failing to reveal fluctuation through the exposed peritoneal surface, the wound was carefully closed, and an incision five inches in length was made into the abdominal cavity on the median line. The

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hand carried into the abdominal cavity through this incision at once revealed a thickened oviduct on the right side, adherent at its distal end to the abdominal peritonæum, and an immense collection of pus behind the abdominal peritonæum, to which the fimbriated end of the Fallopian tube was attached, and which seemed to be encapsulated in the sheath of the iliacus internus muscle. With the hand in the abdomen as a guide, the abscess was evacuated through an incision made just in front of the anterior and superior spine of the ilium, on the right side; about one litre of pus with a distinctly fæcal odor was evacuated; the greatest care was taken to save the abdominal wound from contamination with the pus as it flowed from the abscess cavity. The abscess track was carefully irrigated with a $\frac{1}{1000}$ solution of corrosive sublimate and drained with a large glass drainage-tube. The abdominal wound, after a careful inspection and toilet of the peritonæum, was closed without drainage. The wounds were dressed with the modified Keith's dressing. The patient made a protracted and slow convalescence, being discharged from the hospital March 6. She reported at the hospital again in three weeks' time, and so great had been her improvement, and so rapid her convalescence, that neither my colleague, Dr. Noble, nor myself recognized her. Undoubtedly she had had a septic metritis following her delivery, dependent, possibly, upon the presence of gonorrhœal pus in her vulvo-uterine canal, giving rise to septic salpingitis with adherent inflammation of the fimbriated end of the Fallopian tube on the right side to the abdominal peritonæum, and subsequent formation of a septic abscess in the sheath of the right iliacus internus muscle. Of the wisdom of the exploratory abdominal incision there can be no doubt, as it made the diagnosis definite and clear, and indicated the best method of opening the abscess. As was demonstrated by the subsequent steps of the operation, any attempt to open the abscess by incision through the abdominal wall, without the light given by the abdominal incision, would most likely have allowed the pus to escape into the abdominal cavity, — a disaster which if discovered would have tenfold increased the danger to the patient, even if abdominal drainage had been resorted to, and which, as would most likely have been the case, undiscovered, would have led inevitably to the patient's death. To my mind, the case is full of instructive lessons. If in doubt as to whether a post-puerperal septic abscess be extra or intra peritoneal, I think the duty of the accoucheur to verify his doubt by the simple expedient of abdominal exploratory incision, which enables him definitely to decide, and which adds little or no measure of danger to his patient. If, also, a case presents the symptoms such as mine did, the physician may rest assured that pus is present, and instead of temporizing delay, he must

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realize that the safety of his patient depends on prompt recognition of her condition and the speedy evacuation of the pus.

Dr. WILSON also reported an intra-ligamentous cyst.

This specimen was removed from a woman named Mary W., æt. 32, unmarried, and a native of Scotland. She commenced to menstruate at 13 years of age, and was always regular. She had never submitted to coitus. Six months before examination, she first noticed a slight tumor the size of a goose's egg in her right side. A careful bimanual examination under ether revealed a large cyst on the right side of the uterus, and apparently situated in the broad ligament. The diagnosis of intra-ligamentous cyst was made by my colleague Dr. Noble and myself, he using the alternate diagnosis of fibrocystic tumor of the uterus. This cyst had grown rapidly, as in my experience all intra-ligamentous cysts do. Five days after admission, and ten days after the last menstrual flow, the abdomen was opened by a small incision one and one-half inches in length. The diagnosis verified, the broad ligament was incised on its anterior surface, and the cyst easily removed by first aspirating its contents and then *sponging* out the empty sac from its incasement in the broad ligament. The case offered no difficulties, and was principally remarkable for the ease with which the cyst was enucleated. But two or three arterial twigs required pressure with the hæmostatic forceps, and but one was tied with a ligature. This case is reported in order to show with what facility these cysts may be diagnosed and operated upon; also to show the advantage gained in the freedom from hæmorrhage where the sac is separated from its attachments by the adhesions being gently sponged away. This method has the additional advantage that hæmorrhage can be readily and instantly detected by its employment, and the dangers of the operation thereby materially decreased. The woman made an excellent and uninterrupted recovery, the sutures being removed on the sixth day, and the woman discharged from the hospital on the twelfth day. No drainage was employed in this case. In both cases I am thankful to have had the assistance of my colleague Dr. C. P. Noble, and my friend and resident doctor, Francis Weidner.

Dr. BARTON C. HIRST. — I had a case presenting nearly the same features as that reported by Dr. Wilson, and in which I adopted the same procedure. I opened the abdomen and evacuated the abscess externally at the point found most convenient. I could get no history, and do not know whether the abscess followed confinement or not; but I think not. The case made a complete recovery. I agree with the recommendation of abdominal section to determine the proper point of opening in these large abscesses about the lumbar muscles. If I had attempted to open this

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abscess without previous abdominal section, I should, very likely, have opened the peritoneal cavity. There is usually, too, some doubt as to the diagnosis of these cases. In the one just referred to, it was uncertain whether the tumor was an osteo-sarcoma of the pelvic bones, or a deep-seated abscess; the section cleared up all doubt.

Dr. H. A. KELLY exhibited Eastman's Clamp Forceps for securing the broad ligaments in vaginal hysterectomy, and made some remarks upon the simplified technique of the operation in the use of clamps instead of ligatures.

Also a new CORRUGATED TENACULUM (*v.* Fig.), designed to afford a third hand to the operator. This tenaculum, which I exhibit for the first time this evening, has opened up new avenues for me in the successful diagnosis and treatment of abnormal pelvic conditions.



Diagnostically, it is of value in bringing the uterus down towards the pelvic outlet, displacing all structures attached to the uterus in a downward direction, clearing the hollow of the sacrum for bimanual palpation.

This is effected by holding the cervix down near the vaginal outlet by means of this tenaculum, *with the same hand which is being used in vaginal and rectal palpation*, while the free abdominal hand assists in palpating and bringing the structures to be questioned, within reach.

The tenaculum made for this purpose is eighteen centimetres in length, and seven millimetres in breadth in the handle.

The end of the handle is recurved into a small, short hook, giving a purchase to the hand for traction.

The other end tapers off into the stout hook, which is caught in the cervix when the instrument is in use.

The handle is flattened on its upper surface, which is divided into thirteen shallow gutters, one centimetre in width.

When in use, the hook is guided by the index-finger into the cervical canal, which it enters, where it is firmly fixed by pressing it firmly upwards to the anterior lip of the cervix.

The cervix is then drawn down to the vaginal outlet, and the handle of the tenaculum grasped so that the flat surface rests upon the ball of the

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thumb, while the tips of the second and third fingers rest on the corrugations, thus holding it *in situ*, leaving the index-finger free for vaginal or rectal palpation.

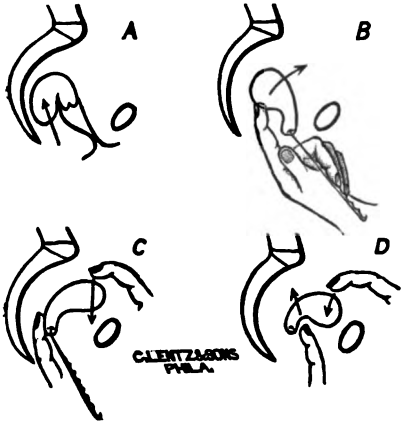
Where a longer reach is desired for the index-finger, the tenaculum can readily be held between the last joints of the ring and little fingers.

In applying *massage* to the pelvic ligaments and stretching adhesions, the value of the tenaculum is especially great. Very often the only possible means of demonstrating a shortening of one or other ligament is by putting all the lateral and posterior supports on the stretch by this means, when soft, yielding structures on one side will be found on the other to be replaced by sharp, resisting, sensitive bands.

Retroflexion. — As a simple means of replacement in some cases of retroflexion and retroversion the tenaculum is especially useful.

Here, sometimes, it is absolutely necessary, in order to replace the uterus satisfactorily, to exert pressure and traction in three directions at one time.

The great obstacle in the way of an easy and immediate reposition, in cases of retroflexion where the cervix has not also descended towards the vaginal outlet, is the fact that upward pressure upon the fundus through the vagina or rectum only tends to drive the body of the uterus into the body of the sacrum, as indicated by the direction of the arrow in Fig. A.



By catching the tenaculum in the cervix and drawing it down, the uterine body is straightened out; then holding the tenaculum as shown in Fig. B, and exerting pressure upon the fundus with the index-finger of the same hand introduced into the rectum, the body yields and begins to go upwards in the pelvis, describing an arc around the fixed cervix, sweeping clear of the sacral promontory; at this point the fundus is caught by the other free hand working through the abdominal walls, and drawn forwards (*v.* Fig. C). The lower hand now lets go the tenaculum, and the index-finger is used to push the cervix high up and far back in the pelvis, while the body is brought further forward and forced down. In this way the reposition is satisfactorily and easily accomplished.

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The secretary then read the following: —

PARIS, Feb. 18, 1889.

MY DEAR DR. DRYSDALE, — All of us who are working at Dr. Apostoli's clinic here in the Rue du Jour were much surprised at the remarks made by Dr. Baldy in the general discussion of Dr. Bradford's paper (meeting, Dec. 6, 1888, as reported by the ANNALS OF GYNÆCOLOGY). A letter written by Dr. Baldy to Dr. Apostoli, last October or November, returns thanks for courtesies extended during the *very short time that he remained at the clinic*. Dr. Apostoli thinks he was not here more than twice. If this be so, of course the remarks to which I refer can carry little weight, and are the result of hasty judgment. During the months of my attendance I have seen nothing of the nature to which Dr. Baldy calls attention, neither have Drs. Van Peet, nor Hall, nor Bunts, nor Smith, nor any of the French or Italian physicians present. I can find no mention in the record of the instances of "slough" occurring at the time when Dr. Baldy was at the clinic. So it is *not* "surprising" that observers do not mention the "writhing and squirming" and the ugly sloughs, because we cannot record what we have not seen. Dr. Baldy's experience has been exceptional. Of course there may be more or less pain, this depending upon the idiosyncrasy of the patient. I have never seen any case of unbearable pain, and I have *never* seen sloughing. Dr. Baldy's visit was so short that he could not, in the very nature of things, watch and follow up the cases, because many of them extend over months. I think Dr. Baldy was carried away by the "claiming of too much" of the ambitious electrician. Here is the danger. Honest scepticism is healthful, but dreary agnosticism is to be condemned. The danger to the electro-therapeutist is unjustifiable enthusiasm, and a tendency to draw conclusions from insufficient or badly arranged data. Electricity will accomplish much for the relief of the diseases of women; it will do more in the future when we understand it better, and work out some subtleties. It should not be practised — any more than laparotomy should be — by those not fully equipped in the intelligence born of patient practice, observation, and study. I find it a brain-work of vaster size than the mastery of regional anatomy involves. It requires a tact quite as distinctive as that which characterizes the surgeon. The best anatomist is often a poor surgeon, because he lacks nicety of fingering. We do not condemn abdominal section because death, sloughing, hernia, septicæmia, hæmorrhage, and the like follow in its wake. Upon what line of logic, then, shall we condemn the method of Apostoli? I wish, for his own satisfaction, and for the sake of those who may be influenced by his remarks, that Dr. Baldy would read the recent contributions on this subject from England, France, and Italy, to say nothing of the most valuable detail of cases furnished by hard-working men in the United States. Electricity is worked out of the highest physical laws, and its value to us depends upon acute physiological deductions. It can only be discussed upon this plane. Individualisms are not argument, and even should certain things annoy us, it is better to let the hard words that first come to our minds go unsaid. Will you kindly read this letter to your society?

Yours truly,

HORATIO R. BIGELOW.

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Dr. J. M. BALDY. — I feel that I must apologize to the society for wasting more of its valuable time by making any remarks on this purely personal communication. As far as the charges of hasty judgment and mistaken observation are concerned, I think I can afford to treat them with the silent contempt they deserve, and ignore them altogether, especially as they involve simply a question of comparative veracity. I should have refused to have paid any attention at all to this abusive letter but that it involves me in a seeming controversy with Dr. Apostoli, a gentleman of whom I have the most pleasant remembrances, and one who was most courteous and polite to me during my three or four visits to his clinic. Surely, whatever good comes out of electricity, the profession will owe, for the most part, to this most energetic of men, — one who, after a hard day's work, spends some three or four hours working for the benefit of his poorer patients and science. But, Mr. President, there are some scientific facts here involved to which I have before directed your attention, and I shall again take the opportunity of reiterating them. The use of electricity in diseases of women has an assured and valuable place, but some of the disciples of Apostoli are inclined to claim entirely too much for the remedy, and try to hide and deny the dangers and difficulties of their hobby. Deaths have occurred in much larger numbers than one would suppose until they began to investigate. Every large city contains many such cases, well and generally known, but unpublished. I have myself, together with others, seen a fibroid tumor which had sloughed out of the cul-de-sac of Douglas, after a course of electrical treatment, held up in triumph. A book recently published in this country, on this subject, quotes just such another case triumphantly. Sloughing wounds continually follow electro-puncture, and constant care must be taken that they do not set up a general septic condition of the patient; even this does not always save the woman.

Pain is an almost constant companion of the applications of high powers of electricity. I have often stood by the side of a patient receiving little more than one hundred milliampères and tried to coax or scold her into keeping quiet. Indeed, I have seen some women who would twist about on the table and complain loudly under not more than fifty or sixty milliampères. Unbearable pain I have never seen, but I have seen the actual cautery passed the full length of a patient's back and the pain still be bearable. It will not do to simply call this character of pain hysteria. It is just possible that what I call sloughing puncture wounds and pain may be noted, but interpreted differently, by our electrical friends. Of course, if this be true, and they be so ignorant of the significance of what they observe, I have nothing more to say on the subject,

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excepting that there are others who put the same construction on these clinical observations that I have, as witness the following letter which Dr. Keely, whom I met in Apostoli's clinic, has kindly authorized me to use: —

MY DEAR DOCTOR, — In answer to your letter I may say that I did see pain expressed in variable degrees by the patients in Apostoli's clinic. The sloughs to which you refer were most certainly present. . . .

Very sincerely,

R. N. KEELY.

There are two classes of men making observations on these subjects, and it is eminently proper that we should carefully differentiate between them in accepting their respective opinions. Amongst the first class are those men who have had absolutely no practical surgical experience, or having had such experience, have found it so disastrous that they are very glad to find any toy which will amuse their patients and hold their patronage. These men go abroad, spend a number of months in some clinic or other, and generally come home to pose as full-fledged specialists in some one and very narrow field. In other words, they are a failure in everything else, and so try to blind the public by making a grand flourish of one lone principle. It is on much the same principle that the homœopathics claim their own narrow dogma as the only and whole truth.

Among the second class of observers and travellers are those men well grounded in a successful surgical experience, and with a mind encompassed only by an honest desire of giving their patients the benefit of any new method of treatment which may from time to time come into vogue. This first class, of necessity, need a long time to obtain any good from observing other men work. The second class, being perfectly familiar with all the phases of the diseases under treatment, born of a thorough and practical experience, need but a limited time in order to observe and grasp the details of the technique, as well as the results of the treatment. Whenever such a one appears and refuses to accept all that the credulous electrician claims, he is immediately pronounced incapable of carrying on the treatment properly; he is biased in his opinion; he has neither proper apparatus nor intelligence; it makes little difference how competent he has shown himself in other things, or how sound and comprehensive has been his judgment ever before. On the other hand, let any one announce himself as an ardent and blind advocate of electricity, it matters not how much he has demonstrated to the world that in his past work he has proven incompetent, he is at once hurled at our heads as an eminent authority; as witness some of the men who are con-

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stantly quoted to us, and whose *reports* we are advised to accept. With these men we have the right to refuse their reports, and demand that we see for ourselves before we will believe. This is the more obviously true when they deny such visible facts as death, sloughs, pain, and the like, and attempt to suppress them from their reports.

But so intolerant of scientific criticism are these men, that they hurl personal abuse upon the heads of every one who may venture to gainsay them. Such has been the fate of many. Tait went to Paris, hunted up patients, and studied *them*, and did not find sufficient encouragement to make him go and see the *mere details of the technique and the immediate result of the application*. For this neglect he has been most roundly abused. I went to Paris, saw *the technique and immediate results*, and because I saw certain things which militate against electricity, and so stated, am likewise abused. Bantock studies this same system, and because, after careful observation, he refuses to accept it *in toto*, and so expresses himself, is a victim to this same slanderous tongue. Sutton, at great expense, gives it a fair trial, and finds it wanting in many of its strongest citadels. He plainly says so, and gives his opponents — by a challenge — a most fair and generous opportunity to prove that he is wrong. The result is like all the others, — a storm of personal abuse, and the scientific side of the question wholly ignored. Truly this defence (?) by abuse has become most popular. How such men as Chadwick, Crooms, and others have escaped is a mystery. Many of the best men have tried this remedy, found it wanting in variable degrees, and have either given it up altogether, or use it only to a limited extent in well-selected cases. If we carefully canvass the list of men who are enthusiastic in the more general use of electricity in our own country, we can easily see to which class of observers many of them belong; whether to the practical and successful gynæcologists, or to the notoriously unsuccessful operators and unskilled diagnostricians.

In conclusion, Mr. President, I would ask Drs. Drysdale and Massey, both of whom are present, and both of whom are deeply interested in this subject of electricity, to express their opinion as to pain and electro-puncture.

Dr. Thomas Drysdale. — At the present time I do not care to say much about electricity, as I intend soon to give the results of my work in the form of a paper. I may say, however, that I believe that electro-puncture is a dangerous procedure, and should not be undertaken lightly. In fact, I consider that the puncture of the capsule of a uterine fibroid is one of the most dangerous proceedings in surgery; for if air is once admitted, necrosis is set up, and will pass through the whole mass; and if operation does not follow the puncture the patient will die. Besides,

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I am sure that we can obtain as good results without puncture. In reply to Dr. Baldy's question, I would say that I have never lost a patient from the use of electricity in fibroid tumors, although I have treated a good many in the last three years.

I do not feel called upon to uphold what Dr. Bigelow says. The letter was addressed to me simply because I was president of the society at that time, and I have no personal interest in the matter whatever.

Dr. G. BETTON MASSEY. — I should like to say a word in reference to this point of pain. It is not a matter to make much fuss about. As a rule, the patient is requested to state whether or not she feels pain, and therefore she is in a condition of expectant attention that magnifies very small quantities of pain. It is, of course, difficult to appreciate how much pain a person feels, owing to physical and psychological differences that give great range of descriptive expression to the same amount. I have seen as much evidence of pain from fifteen milliampères as from three hundred and fifty; and this fact is of special importance just now in view of the absurd claims of a recent critic that we may as well measure our currents by the pain produced rather than by the metre. I have not seen unbearable pain in any application that I have made, and on the whole think that it is a question that may be left with the patient herself. If she is willing to come back time and again and submit to the treatment, the pain cannot be very great. Personally, I have never denied that there was some pain, although it is mainly that of a burning sensation felt at the external electrode — frequently less intense than that of a mustard plaster. It is rare that there is any internal pain.

In regard to puncture: I have never been at Apostoli's clinic, so that I cannot say what occurs there. I have never had any bad results from electro-puncture with the needle; but it is a procedure which requires great circumspection, just as does any pelvic operation. It is an open question whether we cannot do as much by intra-uterine application as by puncture. I am not prepared to think that it is safe to frequently subject fibroid tissues to the destructive action of the current by puncture, although I have done it without bad results. I have punctured through the abdominal wall a number of times, traversing the peritonæum, and inserting a needle half an inch into a tumor, softening it, without rise n temperature. A cup-shaped depression is usually produced at the point of puncture, with subsequent diminution in the size of the growth.

These discussions are of importance if they bring out the dangers of his method in certain classes of cases. I think that puncture is very dangerous in fibrocystic tumors. I have had one death under such circumstances — the only unfavorable case that I have had. This was a case

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of a large fibrocystic tumor, largely intra-uterine. It was treated for two months by intra-uterine applications before the contra-indications presented by this class of tumors were pointed out by Apostoli, the applications being repeated three times a week, and the temperature carefully watched. There was suddenly one morning a dilatation of the mouth of the womb, and a presentation of the tumor. Previous to this there had been a copious discharge of the liquid of the cavities of the tumor, accompanied by a corresponding shrinkage. About two weeks after the occurrence of the dilatation of the os, the patient died of septicæmia. I am sorry to say that at the autopsy there were other evidences of hasty work on my part. There had been a puncture of the uterus by the electrode in one of the later applications. The full details of this case will be given to the profession shortly. I have seen no other evidence of danger in any application that I have made myself, or seen made.

[*To be continued.*]

DETROIT GYNÆCOLOGICAL SOCIETY.

Stated Meeting, March 6, 1889.

The society met at the office of Dr. Manton; in the absence of the president and vice-president, Dr. Gilbert was called to the chair.

Written Communications.

Dr. Flintermann read an inaugural paper on Pudendal Hæmorrhage.

Discussion.

Dr. Gilbert said that he had never seen a case of this condition. Those that were presented by Dr. Flintermann were simple, and the treatment employed effective.

In a peculiar case of bleeding from the mouth which he (Dr. Gilbert) had once had, there was a small spot on the inside of the cheek, the hæmorrhage from which he could control only by the pressure of the thumb inside and the finger outside. In regard to styptics, he had found nothing so effectual as ferric alum, which is very prompt in producing a clot and stilling the hæmorrhage.

Dr. Trurie. — Had met with only one case of pudendal hæmorrhage. This patient was a woman 45 years old, and the mother of grown-up children. While in the act of masturbating with a French-dressing bottle, the top wire had broken and pierced the vessel.

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Dr. MANTON said that the only case of the kind that had come under his notice he had already reported. In his patient the hæmorrhage had come from an immense varix of the vulva, following rupture during delivery.

Dr. CHITTICK had had a case where the hæmorrhage had resulted from the first sexual congress in a newly married couple.

Dr. JENKS recalled the case seen with Dr. Flintermann, and recorded in the paper. He could recall only one other case of traumatic hæmorrhage, which he had seen a number of years ago, but which was readily checked by cold. He had once seen with Dr. Peterhausen a peculiar case of uterine hæmorrhage. The patient had been married the night before, and early in the morning following the festivities the doctor had been called to the woman, who was flowing profusely. When he reached her she was nearly exsanguinated. He (Dr. Peterhausen) worked two hours over the patient, and then called the speaker. It was supposed that some violence had been done, but this the husband, who had been married before, denied. With Sims' speculum, the blood could be seen pouring out of the uterus; but careful examination failed to reveal any physical cause. This woman afterwards bore children, but never again suffered from hæmorrhage. He (Dr. Jenks) had seen a case at the Russell House of bleeding from a lacerated hymen, where the hæmorrhage was very severe; and also a case where the hymen was incised in order to extract a fibroid which had been removed from the uterus.

Dr. HUTTON asked if, in the case reported by Dr. Jenks, intra-uterine application of styptics had had no effect, which was answered in the affirmative.

Dr. GILBERT said he would like to inquire whether the nervous condition of the woman might not have been the cause of the hæmorrhage.

Dr. JENKS replied that very likely it might have had something to do with it, but that it was the only case he had ever met with of the kind, and did not remember having seen any reports of similar cases.

Dr. FLINTERMANN, in closing, said that he thought the discussion had rather wandered from the subject of his paper. Dr. Thomas included in the pudenda those parts between the clitoris and commissure.

After labor, hæmatocele is not infrequently met with; sometimes the hæmorrhage after opening these is alarming. He (Dr. Flintermann) had also seen one case of hæmatoma, the result of a fall. He thought, however, that we should make a distinction between gynæcological and obstetrical cases. From his observations he was convinced that many women die annually from pudendal hæmorrhage, — the diagnosis being uterine hæmorrhage. He therefore insisted, in all cases where there is the

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slightest doubt as to the source of bleeding, that a careful examination be made.

Verbal Communications.

Dr. Jenks said that he believed that no man should be a gynæcologist before he had been a general practitioner, and related the case of a patient suffering from continuous backache, who had consulted her physician. He told her that the cervix was lacerated, but that after an operation all her symptoms would disappear. The operation was done, and the backache made worse. In explanation, the doctor said that it was a matter of time, but that it would be all right. The patient afterwards consulted him (Dr. Jenks). He found the urine heavily loaded with pus. After washing out the bladder and bowels, examination revealed a tender ovary as the source of the pain. A further careful inspection of the patient led him to the conclusion that he had to do with a suppurating kidney, and in this connection he was led to speak of large rectal enema as a method of washing out the kidney. He was led to consider this by a patient to whom he had given a large injection, but who returned very little of the water by the bowel. The amount of urine passed, however, was enormous.



Longaker's self-retaining intra-uterine stem pessary. Explained at p. 202, Jan., 1889.

In another patient, now under treatment, the same thing had happened. He would be glad if the gentlemen present would try washing out the kidney in suitable cases, in this way, and report at some subsequent meeting of the society. He would recommend that a dose of opium be given previous to the injection, and if the fluid could not be forced up high enough, that the patient be placed in the knee-elbow position.

Dr. Hutton asked how high up the tube was inserted in the cases mentioned, to which Dr. Jenks replied, seven inches.

Adjourned,

W. P. MANTON, M.D.,
Editor.

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ABSTRACTS (TRANSLATED).

ANTISEPTIC TOILET OF THE PARTURIENT WOMAN. — *Auvard, Jour. de Méd. Jan. 6, 1889.*

THE author thinks that the ordinary antiseptic precautions taken by accoucheurs are insufficient, and advises the following. First, the entire body of the patient should be washed with soap and water. Then she should be placed across the bed and the toilet of the vulva made, either by the accoucheur himself or by a competent assistant. The labia majora and minora, vestibula, mons veneris, anus, genito-crural folds, and perinæum should all be rubbed with antiseptic soap, while an assistant directs a copious stream of some suitable antiseptic solution over these parts. In order that the toilet be complete, the vagina also must be rubbed and irrigated. To accomplish this, a rubber irrigator has been devised which may be drawn over the index-finger. This is filled with an antiseptic solution, and having been drawn over the finger is introduced into the vagina, and the solution squeezed over its surface and into the cervical canal, the tissues being at the same time thoroughly rubbed and cleansed. In this way complete asepsis may be obtained. If it is necessary to cleanse the uterine cavity after labor, the same plan of rubbing and irrigating is indicated. Auvard believes that the post-partem injections which are usually practised are quite insignificant, and if such treatment is indicated at all he prefers the use of the irrigating curette. To accomplish this, the uterus is drawn down with forceps, and, guided by the index-finger, the irrigating curette is introduced, and the entire uterine surface scraped with either the dull or the sharp edge of the curette, according to indications.

A. F. C.

THE BLADDER AND THE PUERPERAL STATE. — *Auvard, Jour. de Méd., Jan. 6, 1889.*

THE relations of the bladder to the uterus vary during gestation, parturition, and the post-parturient condition. During the first six months of gestation, the greater portion of the bladder is in the pelvic cavity, where it is particularly restrained during the first half of that period. After the seventh month, the uterus now having a tendency to become engaged in the excavation, the bladder may take one of three principal positions.

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In the first case it may become flattened above, depressed in the form of a cup, or distended laterally like a cross. In the second case it is divided into pouches, one of which occupies one supra-pubic excavation, and another the other, the two being united by a flattened canal, and the shape of the organ being that of an hour-glass. In the third case it may be pushed completely above the pubes, taking the form of a horn. The cause of these different configurations is the adhesion of the bladder to the neck of the uterus, and it is also governed by the degree of engagement of the fœtal parts. In the first two forms there is strong adhesion and slight engagement; in the third, there is a minimum of adhesion and extensive engagement.

During parturition, as long as the fœtal parts are not engaged, the bladder occupies the pelvic excavation; but when engagement takes place, the bladder assumes one of the three forms before mentioned.

After parturition the bladder resumes, with respect to the uterus, the action which it possesses when the latter is empty, being at one time at the right and at another at the left of the uterus. Halliday Croom states that it will more frequently be found at the right of the uterus.

A. F. C.

SALPINGITIS AND ITS TREATMENT. — *Routier, Le Concours Méd., Jan. 12, 1889.*

This subject was recently presented by the author to the Paris Surgical Society, and was followed by an important discussion. Championnière, Richelot, and others objected to the term "salpingitis," since other organs, in addition to the Fallopian tubes, were usually involved. Trélat proposed the general term of "metro-salpingo-ovaro-peritonitis," which would show that the uterus, ovaries, and peritonæum, not less than the tubes, were diseased. Championnière alone defended that theory of pathogenesis according to which the lymphatics alone serve as a medium for the propagation of the inflammation, whatever the primary accident may have been, whether the puerperal state or blenorrhœa. Quénu, on the contrary, agreed with the majority of pathologists that salpingitic inflammation is one which is directly propagated from the uterus. Terrier agreed with this opinion, and thought that the origin of the disease by the lymphatic channels was exceptional. Terrillon believed unreservedly in the theory of propagation by continuity from the uterus, also that the inflammation might be localized in the tube or extend to the peritonæum. Should the ovary become involved, it is involved secondarily, and usually only upon the surface. The course of circum-uterine inflammations showed

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that the tube may be considered as the pivot of these inflammations, and that the tubal inflammation was always propagated directly from the uterus.

Most surgeons believe that an examination in most cases of this disease should be made under an anæsthetic. The indications for surgical intervention are still under discussion. If there is suppuration, there should be no question as to the propriety of an operation. If there is salpingitis without suppuration, Terrillon does not believe an operation is justifiable unless there is severe pain or intense hysterical phenomena. Terrillon thinks that one may cure without radical operation certain forms of salpingitis which are not very painful and not of long standing, in women who are not forced to work for a living. Of eighty-six cases of this character, Terrillon advised against an operation in twenty-eight. To ascertain the real benefits of operation for this disease, one must not decide until quite a long period of time has elapsed.

A. F. C.

CHERNEWSKI. — PUERPERAL AFFECTIONS. — *Trans. St. Petersburg Obst. Soc., May 31, 1888.*

The following conclusions are deduced by the author: —

1. In the puerperal secretions of healthy parturient women, micro-organisms are only exceptionally met with.

2. The puerperal secretions of healthy parturient women do not possess pyrogenic nor phlogogenic properties.

3. In the great majority of cases, a streptococcus can be demonstrated in the uterine secretions of puerperal women who have the milder forms of puerperal disease.

4. In fatal cases of puerperal diseases, of the type septic lymphangitis, streptococci may be developed in cultures made from the secretions, and after death from all the liquids and organs of the body.

5. Fatal cases of puerperal septicæmia are caused by penetration of the streptococcus into the organism by the way of the genital organs.

6. The streptococci which occur in all grades of puerperal diseases whether mild or severe, are identical.

7. The streptococci which are encountered in puerperal affection, may cause suppuration and also erysipelatous inflammation.

8. Infection of the organism by the streptococcus is manifested by afflux of blood to the parenchymatous organs and to the serous membranes.

A. F. C.

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AUVARD. — OBSTETRICAL WORKS. — *Le Concours, Jan. 26, 1889.*

THREE volumes of essays by the author have been collected and published, and the following are extracts from the more important of them: —

I. *Diagnosis of the Epoch of Accouchement.*— The determination of this epoch with accuracy is usually very difficult, for it is almost impossible to say when pregnancy began in a given case, or exactly how long it will continue. There may be (1) signs obtained by interrogation, including at the beginning of gestation, the last menstruation, the occurrence of a single coitus, the appearance of sympathetic phenomena, then the information as to the first movements of the fœtus, and the phenomena of the falling of the uterus in the latter part of gestation; (2) signs furnished by direct examination, including the volume of the uterus and the fœtus, the engagement of the fœtal part, modifications in the cervix.

II. *Adipose Tissue and the Puerperal State.*—What is the influence of the puerperal state upon nutrition in general and obesity in particular? Gestation has a retarding effect upon absorption, assimilation, disassimilation, and elimination. It exposes one, consequently, to globular anæmia, progressive pernicious anæmia, vomiting, biliary lithiasis, rheumatism, osteomalacia, diabetes, albuminuria, and eclampsia. Simple regression (after parturition), on the contrary, stimulates all the stages of nutrition, and tends to bring back the normal state again.

Lactation modifies the conditions of nutrition, stimulating absorption and elimination, but retarding assimilation and disassimilation. Obesity is favored by gestation and by lactation. Simple regression without lactation tends to attenuation. Obesity in puerperal women, in cases in which the blood is normal and the organs uncompromised by fatty degeneration, has no injurious effect; but in cases in which there is anæmia and derangement of the viscera, obesity will interfere with menstruation, conception, gestation, parturition, regression, and lactation.

III. *Sudden Death during the Puerperal Period.* — The most frequent causes of sudden death during this period are pulmonary embolism, entrance of air into the veins, syncope, shock, and hæmorrhage. Certain diseases are also associated with this condition which may give rise to a fatal issue. Among these are cardiac diseases, including mitral stenosis, complex mitral lesions, aortic insufficiency, mitral insufficiency, pericarditis, and rupture of the heart. In some cases death occurs, not from syncope alone, but in conjunction with pulmonary or pleural complications, such as double pulmonary congestion, pulmonary œdema, and

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effusion into both pleuræ. Other serious complications are rupture of thoracic aneurisms, rupture of the aorta, cerebral or meningeal hæmorrhage.

IV. *Intra-uterine Tamponnade.*— This method has occasionally been used in cases of severe uterine hæmorrhage. In performing the operation, one hand should be introduced into the uterus, and its contents removed. Then the cavity should be packed with iodoform gauze, the cervix and vagina being also tamponned, if so great a degree of pressure as would thus be obtained is indicated. Chloroform should be given if the case requires anæsthesia. The tampon may be retained twelve to twenty-four hours, and catheterization of the bladder should be practised at proper intervals, if necessary.

V. *Syphilis in Connection with Conception.* — This may be contracted from the husband, who, at the time of marriage, may present no indications of the disease. The wife becomes pregnant soon after marriage, and in a short time manifests roseola, mucous patches, alopecia, headache, etc. In all such cases the fœtus is syphilitic when born, possibly being born prematurely. The mother, in such cases, is infected by the fœtus, the infection being transmitted by way of the placenta. There is no chancre in such cases. Reinfection from syphilitic infants during lactation is not believed to be possible, which is an argument in favor of a mother's nursing her syphilitic infant.

A. F. C.

FARADIC ELECTRICITY IN HYSTERIA.

BY DIDIER, OF LYON.

Translated from the "Lyon Méd." VII. 1888.

THE substance of the treatise is recapitulated in the following sentences: —

1. Of all agents which have been used up to the present time to cure or prevent hysteric attacks, faradization is indisputably the best. It has never failed in any hysteric convulsive attacks; it was also in two out of three cases of hystero-epilepsy successfully employed. Hence in the latter it is of less reliability. Faradization is much to be preferred to the compression of the ovary, for the latter, if too frequently and forcibly employed, may result in injuries of the true pelvis; besides this, it cannot be performed in pregnancy.

2. Faradization even renders it possible in doubtful cases, or in the absence of a physician especially experienced in these diseases, to diag-

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nose an epileptic individual from one who is hysterical, be it hystero-epilepsy or convulsive epilepsy, as the hysterical, but not the epileptic, fits will cease on its application.

3. One may also be able to diagnose, if both of these neuroses are present at the same time, the different attacks according to their character.

4. If one be called in at the beginning of the attack, then one electrode should be applied upon the pit of the stomach, and the other upon the anterior cervical region; a current of medium strength is used. In the attack itself, up to the clonic or tonic stage, one electrode should be applied to the posterior cervical region, and the other in the hand, or one in each hand.

5. Besides this abortive action, faradization also acts, as is well known, eminently curatively.

P. P.

ON MIXED INFECTION IN GONORRHŒA.

BY GERHEIM.

Translated from the "Central-Blatt für Gynäkol." — "Verhandlungen der physio-med. Gesellschaft zu Würzburg," 1888, Bd. XXI.

ANALOGOUS to certain secondary diseases which are observed to be sequelæ of different affections, and which, according to bacteriological researches, are dependent upon the synchronous penetration of different microörganisms into the tissues of the body, the writer holds all complications of gonorrhœa (inflammations of the corpus spongiosum, peri-urethral abscesses, gonorrhœal buboes, prostatitis, cystitis, gonorrhœal rheumatism, peri and para metritis, diseases of the Fallopian tubes, bartholinitis, and endocarditis) to be mixed infections; these conditions result from the penetration of the gonococci or any other second pathogenetic microörganism. As a proof, he cites Bumm as having stated that gonococci develop upon cylindrical epithelium or in tissues which, in their histological structure, resemble closely that of cylindrical epithelium. He also cites that, if injected into the tissues, as proven by Rinecker, they quickly lose their vitality. Through the whole gonorrhœal process through the production of ulcerous places on the diseased mucous membrane, points of entrance are opened through which other pathogenetic microörganisms may easily penetrate into the lymph and blood channels. These find in the secretion accompanying the process an excellent soil for their propagation and further migration, thus producing the complications of gonorrhœa. If gonorrhœa were not a purely local affection of mucous

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membranes with cylindrical epithelium, then complications would necessarily be much more often observed; yet the relative frequence of their appearance speaks for the ease with which microörganisms, save the gonococcus, may penetrate through the diseased mucous membranes of the genital organs into the tissues and lymph channels.

A pathogenetic, yellowish-white dipplococcus discovered by Bumm, as well as the staphylococcus aureus, and albus, being found in gonorrhœal complications, together with the gonococcus, on superficial examination, they may be very easily confounded with the gonococcus. This may give rise to the thought that the process of disease be uniform, while, in fact, the condition is that of a mixed infection.

P. P.

POTHERAT. — ALEXANDER'S OPERATION. — *Gaz. Méd., Jan. 26, 1889.*

Descriptions of this operation have been given sufficiently often; but in addition to a very good description, the author has epitomized, in a number of directions, which will be found very convenient for reference: —

1. The two points of selection should be found, — the spine of the pubes and the anterior, superior iliac spine.

2. The skin joining these points should be incised to the extent of at least five centimetres, perhaps even more.

3. The layer of subcutaneous cellulo-fatty tissue should be cut, and one should not be disturbed at the depth of the wound, nor at the planes of cellular tissue which are met, until a white, glistening aponeurosis appears, formed of flat bundles, the fibres of which are always appreciable, and are parallel to each other within and below. The surface of this tendon aponeurosis must be quickly freed.

4. The exact situation of the spine of the pubes in the bottom of the wound must be determined; and above and exterior to it one must find either a small mass of fat, or a small mass of cellulo-vascular tissue, which is limited on each side by two bundles of linear fibres, which are more clearly defined. The external orifice of the inguinal canal is at this point.

5. This canal should be opened with the canulated sound, all its contents isolated from its walls, and placed either upon the finger or upon a sufficiently curved and blunt hook.

6. In the entire operation one should first seek, then recognize, and then isolate the round ligament. Then it should be stripped away from

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its sheath, little by little, from without toward the interior, being careful to avoid cutting into this covering, and thus make an opening into the peritoneal cavity.

7. The same process should then be repeated on the opposite [illegible]

8. The uterus should then be reposited, and one should be [illegible] that the ligaments have been freed to a sufficient extent. Then the [illegible] ments should be secured with sutures of carbolized silk to the two [illegible] of the ring, the useless portions should be resected, and then the sides [illegible] the wound are to be united with another series of sutures of silver.

9. The two wounds should be dressed, and the vagina [illegible] aseptic.

10. The woman must be kept perfectly quiet in the dorsal posi[illegible] until the wounds are completely and solidly united.

A. F. C.

REVIEWS.

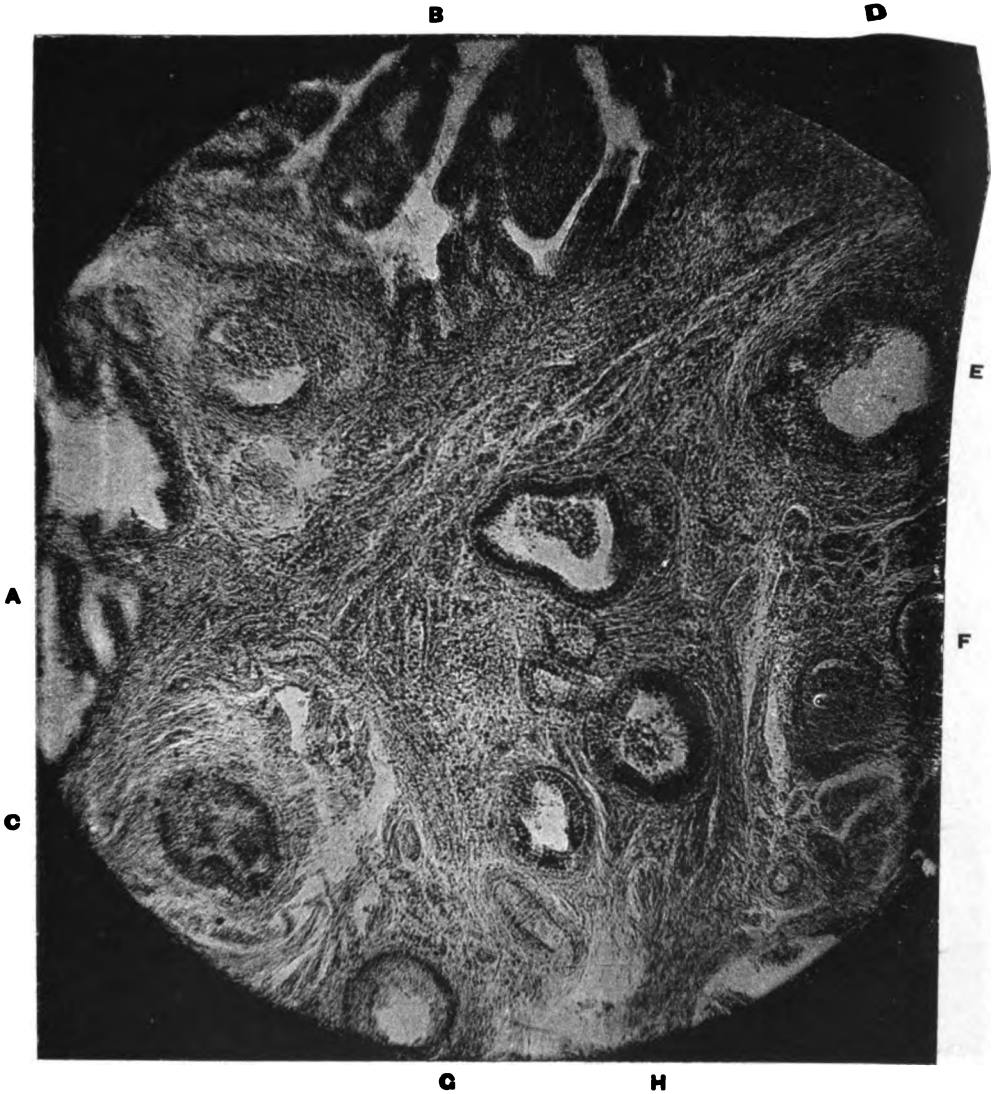
INTERNATIONAL POCKET MEDICAL FORMULARY, WITH AN APPENDIX, ETC. By C. S. Witherstine, M.D. 8vo., 270 pages, $2. Published by F. A. Davis. Philadelphia.

THIS extremely convenient little volume contains formulæ from the writings and practice of many distinguished authors, as well as from the traditional prescriptions of hospitals. A very large number have been derived from the "Annual of the Universal Medical Sciences," shown by the wide range of subjects covered, and by the introduction of the latest remedies, how varied and important are the abstracts embraced in that great collection.

The prescriptions in the "Formulary" are arranged under the head[illegible] ings of the different diseases, alphabetically. Of course such a book [illegible] used without knowledge or as a substitute for individual judgment, would only lead to disappointment; but, on the other hand, it is undeniable that many educated men, otherwise competent, have great difficulty in writing suitable prescriptions, and are often led to employ trade-marked preparations, simply for want of training in the art of writing proper formulæ.

This little book will compare favorably with any other collection of prescriptions, and has the advantage of being the latest. The alphabet in the margin on colored tags, the blank pages interleaved, and the various tables of drugs, doses, poisons, antidotes, the plates showing the points for tying the arteries, and the motor points for using electricity, etc., make it the most convenient and valuable work of its kind extant.

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CATARRHAL SALPINGITIS.

150 ×

Enlarged picture of the part of Plate IV. of the last number which was opposite **C** and above **D.**

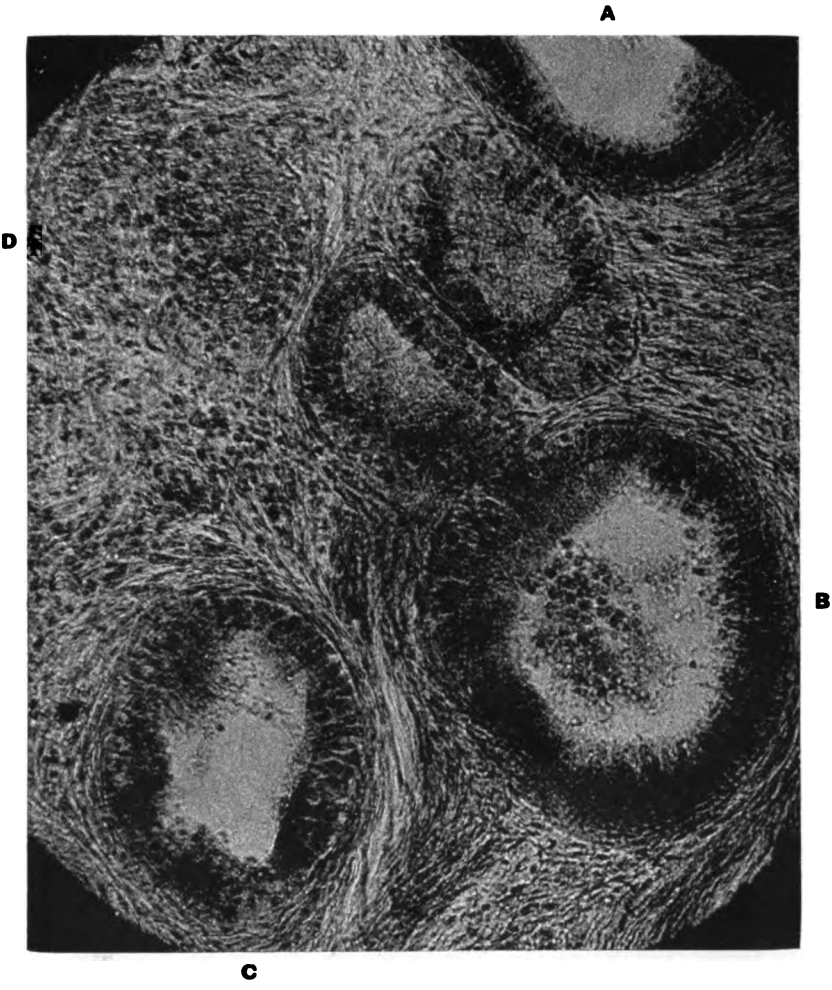
A, B — Thickened folds in lumen of Fallopian tube; between them a mass of tissue infiltrated with small cells and surrounding a glandular cavity.

C to **D** — Section of muscular wall.

E, F, G, opposite **C** and above **H** — Sections of glands which have burrowed into the muscular coat, where no such glands normally exist.

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CATARRHAL SALPINGITIS.

450 ×

Enlarged picture of the portion of the last figure above **H.**

A, B, C — Complete glandular tubes with cylindrical epithelium. Opposite **D** is a solid mass of cells, showing the earliest stage in the formation of a glandular tube; to the right of this are cross-sections of two other such tubes, which already have a wall of imperfect cylindrical epithelium, but are still solid.

The groundwork of the picture shows muscular fibres, with some infiltration of small cells between the new glands.

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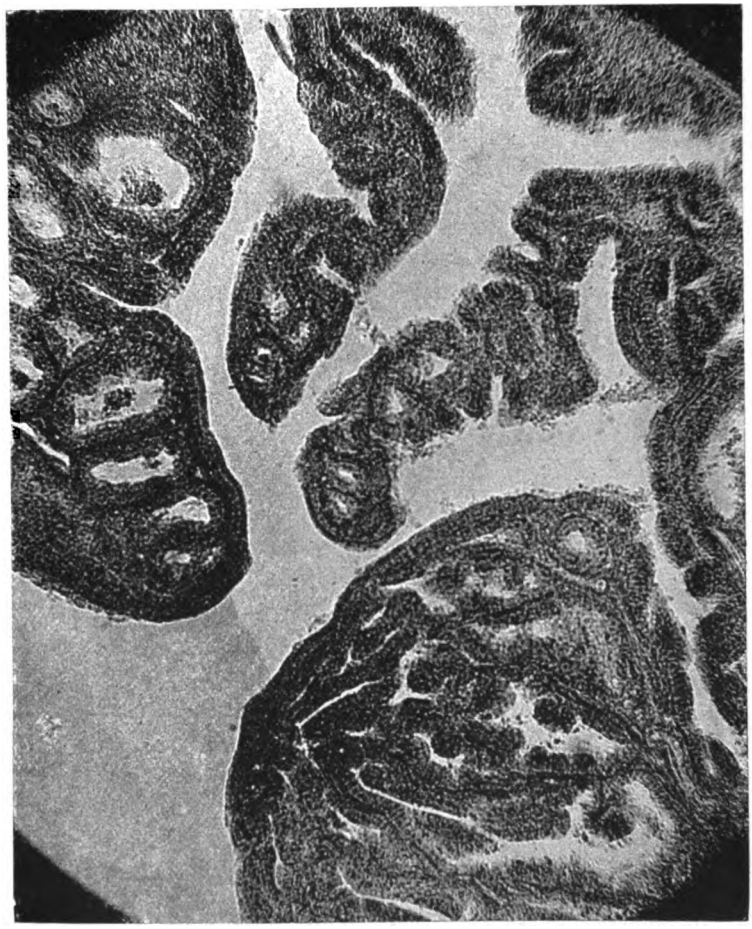
CATARRHAL SALPINGITIS.

150 X

Enlarged picture of the portion of Plate IV. of the last number which is opposite **A.** On the right is a thin strip of muscular tissue; the rest of the field is filled by cross-sections of glandular pockets lined by cylindrical epithelium, and divided by septa of connective tissue, infiltrated with small cells, showing a change in the mucous membrane which makes it resemble that of the uterus in chronic endometritis.

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CATARRHAL SALPINGITIS.

150 ×

Parts of thickened folds of mucous membrane from the same specimen, from a point on the left of that shown in Plate III. The coalescence of the folds, forming pockets or recesses, is well shown at **A, B.** The resemblance to the hypertrophic form of endometritis is here well marked.

E. W. C.

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ANNALS

OF

GYNÆCOLOGY.

VOL. II. JULY, 1889. NO. 10.

ORIGINAL COMMUNICATIONS.

WHAT IS PUERPERAL MANIA, AND WHAT CONSTITUTES PUERPERAL INSANITY?

E. P. CHRISTIAN, M.D.[1]

By the profession generally, and even by those systematic writers on obstetrics and diseases of women who devote any consideration to the subject, the terms "puerperal mania" and "puerperal insanity" seem, very generally, to be used interchangeably, and, without regard to stage or type, to be indiscriminately applied to those mental disorders occurring in, or as sequences of, the puerperal state.

Alienists, however, will tell us that etiologically there is little or no distinction between the insanity of pregnancy, puerperal insanity, and lactational insanity. They are all the result of the violent perturbations to which the system is subjected at these periods. They all alike include the various types of mental disturbance,—mania with exaltations of mental faculties and emotions; melancholia with depression of the same, amounting sometimes to inhibition of thought or feeling.

Mania and melancholia, therefore, constitute the acute stages of the differing types, and puerperal insanity embraces much more than puerperal mania, for which it seems to be used synonymously, as also the former term, "mania," seems to be applied indifferently to mania or melancholia.

Puerperal insanity, then, in its more advanced stages and chronic forms of either type, as observed more commonly in asylums, and differing only from other cases of the same types as to its exciting cause, and designated

[1] Read before the Detroit Gyn. Soc., May 1, 1889.

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and classified from their exciting causes, and not from symptomological manifestations or pathological conditions, justifies the belief of alienists that in these cases, as in those originating from other causes, there exists "a neuropathic taint, an instability of the nervous organization requiring only some great draught on the system, or a shock, or something of that kind to precipitate the mental alienation." The cases with a neuropathic taint creating a predisposing vulnerability of the nervous organization are certainly the cases likely to become chronic and to become inmates of asylums; while those terminating in early and complete recovery, or in early death, will be less liable to become asylum inmates.

And herein lies a possibility that opinions based upon these cases may have a considerable element of uncertainty and error as regards the proportion of all cases in which this predisposing condition exists, as well also as to prognosis as to recovery and duration of mental derangement, etc.

Now, available statistics, so far as I have been able to discover, seem to be almost exclusively those of these institutions, and conclusions based upon them alone. These statistics, too, seem to indicate a far more common occurrence of the affection than the general silence of obstetric writers on the subject would indicate to be the case in general obstetric practice, or of those obstetric authors who mention the subject and who dwell almost exclusively on definition, description, diagnosis, prognosis, treatment, etc., speaking only in general terms as regards proportion of cases, ratio of deaths, etc.

Making use of Churchill's statistics, I find "that Esquirol states that of six hundred women in La Salpêtrière, fifty-two were of this kind," or more than one in twelve; and again, "Of eleven hundred and nineteen cases admitted to this hospital in four years, ninety-two were cases of puerperal mania;" again, about one in twelve of the admissions. And again he says "he found it even more frequent among the higher ranks; for out of one hundred and forty-four cases of mental derangement in females of opulent families, the attack came on during childbed or lactation in twenty-one," or in more than one in seven. "Dr. Haslam states, that of sixteen hundred and forty-four females in Bethlehem Hospital, eighty-four were cases of this kind," or about one in nineteen and a half. "Dr. Rush mentions five cases out of seventy at Philadelphia Lunatic Asylum." From Bucknill and Tukes' "Psychological Medicine" the following figures are derived: "Out of twenty-one hundred and eighty-one female patients admitted to the Royal Edinburgh Asylum, seventy-three were examples of puerperal insanity," about one in thirty of the admissions. The above are all asylum figures; but from the same source as the last we get the following: "At the General Lying-in Hos-

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pital, Westminster, thirty-five hundred deliveries gave only nine cases of puerperal insanity," about one in three hundred and eighty-eight cases of delivery. He says the number attacked in lying-in hospitals is small, which is shown by these figures. He gives the mortality as ten and nine-tenths per cent. All other writers state the mortality as small, but give no figures of their own.

By favor of my son, Dr. E. A. Christian, assistant physician at Eastern Michigan Asylum, Pontiac, to whom also I am indebted for some of the preceding statements, I have the following statistics from that institution: "Out of ten hundred and sixty-seven females admitted up to June 30 last, there were one hundred and fourteen in whom the mental disturbance originated while in the puerperal state," — one in twenty and a half. "Of these, twenty-eight were in acute stage of melancholia, of whom twenty-one recovered; twenty-four were in acute stage of mania, of whom nineteen recovered. Seven of the first class and five of the latter have died or passed into chronic states. Sixty cases were admitted in whom the disease at date of admission had already assumed a chronic form, and had been in existence from one to twenty years." He remarks, "No form of insanity yields better results under favorable surroundings and judicious treatment," which appears to be fully shown, not only by his own asylum statistics, but also by the others here cited.

Now, it is apparent that asylum statistics offer us no basis of judgment as regards proportion of cases to parturients, nor as to rates of mortality to cases. As I have said, the lack of proper statistics to determine these facts, and the silence of so many obstetric writers on this subject, justify the belief of its being an infrequent result or complication of the puerperal state, and also commonly that the puerperal state was the accidental precipitating cause of the outbreak in those having the latent tendency. This latter belief, however, is no more to be accepted as universally and absolutely the case than that the insanity of delirium tremens, or of meningitis, or of various other conditions, is precipitated only in those with this latent tendency.

The figures of the Westminster Lying-in Hospital indicate also the infrequency of the disorder; viz., nine cases in three thousand five hundred deliveries. Other statements, however, found in the literature of the subject seem to indicate so much commoner an occurrence with some observers, that this has suggested the query which is the title of this paper; viz., "What is puerperal mania?" For instance, Churchill states that "attacks of puerperal insanity are not infrequent," but seems to base the statement upon asylum statistics and not upon those of lying-in hospitals or reports of obstetric practice. Dr. William Hunter makes the state-

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ment that "mania is not an uncommon appearance in the course of the month, but of that species from which they generally recover." Dr. Burrowes, as quoted also by Dr. Churchill, observes "that sometimes the slighter attacks, which occur immediately after delivery, will disappear under the operation of a smart purgative and an opiate." If these statements are reliable, they emphasize the unreliability of asylum statistics for determining ratio of cases, prognosis, etc., in another manner, for they show that only chronically insane for the most part will come under asylum treatment. This would naturally be the case, and will be shown by asylum statistics. For instance, take the figures furnished me from the Eastern Michigan Asylum. Of the one hundred and fourteen cases of puerperal insanity admitted, sixty were in chronic stage and fifty-four in acute stage. And this is probably a much larger proportion admitted in acute stage than will hold good generally. For it is certain at this day, and under modern methods of conducting asylums, and the provisions for admission, with better educated public sentiment, when no odium attaches for having been an inmate of such an institution for treatment, and when the State so wisely, humanely, and liberally provides for the care of the indigent who cannot themselves provide for their sustenance and for skilled treatment, that under these circumstances a larger proportion of acute cases now reach such institutions than in years not so very long past, and still in some less provident localities. Therefore, only the larger proportion of chronic cases having entered the asylums, — those who have passed the special dangers of the acute stage with its other and ordinary puerperal complications, and those who have succumbed in this stage, being eliminated from the statistics, — it is apparent that they cannot have sufficient accuracy as applied to all cases to determine ratio of cases, ratio of mortality, etc. Then, again, to form an opinion as to prognosis, ratio of cases, etc., it is necessary to know what constitutes puerperal mania. Are all cases of delirium or mental aberration in the puerperal state to be so regarded? Is the delirium of fever *per se*, or the peculiar abnormal mental manifestations of pyæmia, septicæmia, or uræmia, to be so regarded? or the hysterical excitement associated with an incoherency and irrelevancy of speech in some intensely nervous creatures during the agony of the almost completed second stage? No one, I think, will contend that such as these should be so classified; and yet there would seem to me as much reason for so classifying such cases as for those "slighter attacks which occur immediately after delivery," which "disappear under the operation of a smart purgative and an opiate," and which, being so regarded, have possibly warranted the statement that attacks of puerperal insanity are by no means infrequent.

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From my own experience, while I might cite many such examples of mental disorder associated with the various complications of the puerperal state, I have only met with three cases of what I should call puerperal insanity. Two of these should be classified as puerperal mania, and one as melancholia.

What is singular, but like other coincidences often remarked, is the fact that my first two cases occurred in the same year, after twenty years of *practice* without having met a case; the third, four years subsequent to the second; and none since, — a period of about fourteen years.

Case I. Mrs. T——r, a woman of about 30 years of age, in her fifth labor, which was easy and natural, and patient did well until the sixth day, when she had a rigor followed by a convulsion, and this by violent mania lasting about forty-eight hours, followed by coma and death. The patient, I learned (this was my first attendance upon her), had an attack of mania after her first child, which lasted about four weeks, with complete recovery, and had no trouble with subsequent labors until this one. This history would probably point to a predisposing condition of the nervous system. Dr. Gooch speaks of one of his cases in which the disorder was ushered *in by* a convulsion, and Dr. Churchill, too, speaks of having seen it come on after a convulsion. I have seen in one other case a temporary wildness *of manner*, with incoherency and irrelevancy of speech, preceding a convulsion in a nervous primipara in the agony of complete dilatation of the os uteri and distended perinæum by the emerging head, the trouble entirely unconnected with albuminuria, and with speedy and complete restoration on rapid completion of delivery by the application of the forceps.

The following case, also of recent occurrence, illustrates this temporary mental aberration, as I suppose, of an hysterical nature.

Mrs. S. was in her fourth labor. She was a large, well-built, healthy woman, and her previous labors had been natural and speedily over, but exceptionally painful from activity and force of the contractions. About one year ago she suffered an abortion, which caused her a good deal of suffering, apprehensions, and impairment of her health. In this succeeding gestation, there was strong threatenings in the early months of a repetition of the accident, which, however, was prevented; but she continued to suffer much distress all through her gestation, which was prolonged several weeks beyond the expected term, and she became immensely distended, and her mind became filled with grave apprehensions and fears as to the outcome. Labor came on actively, pains forcible and frequent, but owing to large size of child and hardness of cranial bones the advance was not as rapid as in her previous labors. As the head de-

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scended to distention of the perinæum and complete dilatation of the os uteri, after the quickly recurring pains there began to be manifested mental wanderings and delusions, uncertainty as to her whereabouts, and expressions of dismay that her husband and the doctor had left her; and this just before emergence of the head, accompanied by a convulsive twitching of the arms and a gasping respiration that caused me fear that longer delay might be followed by a convulsion, and I had the blades of the forceps hurriedly got in readiness to terminate the labor; their application, however, happily, not being necessary, as a quickly recurring pain terminated the labor by the expulsion of a twelve-pound boy, purple from asphyxia, by reason of the compression of the powerful and quickly recurring contractions. Not a particle of ergot had been given, or of any other medicine. The child was quickly resuscitated.

Such cases I have by no means regarded as cases of puerperal mania. In Mrs. T.'s case (the first) there was no mental disturbance noted and no observed threatenings of eclampsia before, during, or immediately after labor. Whether there was albuminuria I do not know, as the woman was not under my care previous to her labor, and I had no opportunity of ascertaining afterwards. She was, however, of a pale appearance, and looked not strong, which was attributed to frequently recurring pregnancies, lactations, and hard work, — a condition presented by many of these cases of puerperal mania as well as many of the subjects of puerperal eclampsia, but by no means by all the subjects of either. As puerperal eclampsia may occur in very different physical conditions, so too may this disorder, even in the cases preceded by a convulsion, originate in very opposite conditions of the cerebral circulation. As, for example, Case II., Mrs. T——n, a young and uncommonly healthy primipara. Labor natural and uncomplicated, and doing well until third day, except unnatural restlessness, loquaciousness, and nervous excitability. On third day violent mania developed, with suppression of lochia, high fever, and indications of cerebral hyperæmia. The patient was freely bled, with decided and immediate benefit, gradual daily improvement, and entire restoration within four weeks; and although the subject has borne a number of children since, and has passed through trying afflictions, there has never since been any recurrence of mental disorder, or any parturient complications.

Case III., Mrs. S., was of an entirely different type from either of the others in all particulars. This case occurred in a strong, vigorous, and hitherto healthy Irishwoman at age of 47, who had borne a number of children with natural and uncomplicated gestations and labors (all three of my patients were Irishwomen of the laboring class). The abnormal

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psychological manifestations must have developed at a very early period of her fourth pregnancy, assuming the type of melancholia. Her principal delusion was that some foreign body had got inside her belly, and that she herself must cut it out. Other patients in similar states have performed on themselves successful Cæsarian section. As this subject was always able to attend to her family and household duties, the insane impulse was not so overpowering as in others who have been impelled to self-inflicted laparotomy. But who can say by how little she escaped it, what trifling unknown circumstances providentially intervened in her case to prevent that consummation! I saw her first at an early period of her pregnancy, and believed, as she herself did, and other physicians did who had seen her, that the cessation of the menses and other morbid manifestations were owing to change of life, which seemed most likely at that age. I bled her with decided benefit, and did not see her again until between seventh and eighth months, when her pregnant state was at once apparent. But the very lively motions of a vigorous and active fœtus had only increased the force of her delusions as to its nature; and the woman passed through her whole gestation and the throes of parturition without abatement or modification of her delusion, fortunately without doing violence to herself. The child was, in fact, born while the woman was walking the floor, and a neighbor called by one of her children, who were alone with her in the house, her husband being absent from home. I was sent for by the neighbor, who had already properly attended to the infant; together we got her to bed, I removed the after-birth, had proper changes made with her clothing, and got her under influence of chloral to quiet her excessive restlessness and irritability and to produce sleep. No notice was taken by her of the babe for some days. She gradually improved, and I think ultimately fully recovered without having become an inmate of an asylum. But she passed from my care and knowledge by removal from the place.

The three cases here recorded were all of very different types and manifestations, and may probably be regarded as typical varieties of the acute stages of mania and melancholia. Aside from the disorder itself, I know of no other indications in any of them of any neuropathic taint or tendency which would have predisposed to the development of insanity or other nervous disease, the outbreak likely to be precipitated by some other exciting cause. In the first case the recurrence of the disease may indicate this predisposition. In the second case the early and complete recovery and non-recurrence after nearly twenty years seems to point against it. In the third case, nothing is known of her subsequent history.

Churchill says, "Great stress is laid upon moral causes by the French

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writers. Esquirol states their frequency as compared with physical to be as four to one, and Georget mentions that out of seventeen cases, there were but two not proceeding from a direct moral cause. During the invasion of France in 1814–15, eleven out of fourteen cases were from terror." It is not hard to conceive that violent motions, such as terror, might have an active cause, especially in subjects already predisposed by the neuropathic taint. In my own cases no moral cause was alleged or suggested by the recovered patients, or by friends. And perhaps in the large number of cases attributed by writers to moral causes there was no particular relation of cause and effect. Any emotional disturbance during the whole course of the pregnancy might easily have been believed to have been the cause by one seeking for it. When a cause is eagerly sought for, on the easy *post hoc propter hoc* reasoning, any emotional disturbance is easily resurrected from the forgotten past to serve the purpose. Few women will pass through a pregnancy, few, indeed, through any month of it, without annoyances, vexations, and irritations which in their opinion or that of the near friends would be sufficient to account for all sorts of abnormal manifestations, both as regards mother and child, but which with no accidents of the kind remain forever forgotten.

But, on the other hand, there is no reason why the condition of pregnancy itself, and the process of parturition, with their heavy draughts both upon the physical and psychical organization of the woman, may not be as sufficient to cause these disturbances as any of those which are cited as the causes of insanity in general, especially if conjoined with exciting mental emotions and disturbances acting all together upon an organization with the so-called neuropathic taint.

A study of puerperal insanity will show that not only the differing types of mania and melancholia, but that symptomologically similar attacks of mania may occur in patients presenting very dissimilar physiological conditions. The same thing is shown by the histories and characteristics of my two cases of mania. That like eclampsia, attacks of which, of apparently most similar types and manifestations, may occur in the robust, plethoric, and full-blooded as well as in the anæmic, debilitated, and cachectic, both conditions leading, by diverse processes, to cerebral irritation, pressure, and nervous exhaustion; so, too, puerperal mania of very similar manifestations may occur in the robust and full-blooded from active cerebral hyperæmia, progressing probably to phrenitis; or in debilitated and anæmic individuals, in whom the cerebral irritation or exhaustion has been induced by a different pathological process. And it is also probable that many of these latter cases, and more especially cases of melancholia, will be found in those of impaired health, by reason of chronic hepatic dis-

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orders and vaso-renal derangements, and that prognosis as to recovery and as to early or deferred convalescence will depend, not alone upon gravity of symptoms of acute stage, but also upon existence or non-existence of nervous taint or predisposition, and especially if manifested by previous attacks of this or other neuropathies; and by existence or not of impaired health and strength by reason of chronic derangement of the digestive or eliminating organs.

WYANDOTTE, MICH.

POST-PARTUM HÆMORRHAGE.[1]

BY GEO. A. TYE, M.D., CHATHAM, ONTARIO.

THIS is a subject of such transcendent importance that it never fails to claim attention, or to be welcomed as a subject for discussion.

Cases, from various causes, will occur in the practice of every obstetrician.

When it does occur, it is generally successfully treated. Yet every one will prefer prevention to its cure, for prophylaxis is one of the best achievements of our art.

I wish to record my experience in dealing with the third stage of labor in a practice of over two thousand cases, during the space of twenty-two years.

I do not intend to present this matter in all its relations, but with especial reference to the practice of expression of the placenta, known as *the Dublin* method, or still more widely as Credé's method. When a student, I was taught to press away the placenta. I followed this practice for several years, and frequently met with this complication of post-partum hæmorrhage,—sometimes so severe as to cause much anxiety to both patient and accoucheur, as well as danger to the former. I could not account for the frequency of these occurrences.

I consulted the authorities and found many recommending this method. I read carefully their directions and as carefully followed them, although the definitions and directions of its advocates were not at all uniform.

Still these cases occurred far too frequently, and I was not satisfied, and therefore searched earnestly for a cause.

I had long observed that cases of accouchment which had been completed before my arrival were rarely complicated with this accident.

[1] Read before the Detroit Gynæcological Society.

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I watched and noted these cases for years, only to find that there was almost entire immunity, except where midwives had interfered. I also observed the practice of confrères who never employed expression, and found that they were nearly exempt from this trouble.

These facts led me to consider this matter independent of authority. The whole parturient act is intended to be, and nearly always is, a purely physiological act in all its stages, and therefore requires no assistance.

However, just as soon as the process deviates from the normal course, then the natural conditions are at fault, and there is more or less of a pathological condition. Then we have cause to interfere, and then only.

Midwifery is meddlesome when we do, or attempt to do, what may be done just as well or better without our assistance.

Let us suppose the first stage to be accomplished by nature's process, and the second stage terminated in the same manner, and the third stage follows. Now, why should anything artificial be introduced? Why should there be a Dublin method, or why should Credé's practice be followed, when the uterus can accomplish its work in this stage as well as in the two former stages? There is no cause, unless the conditions are altered.

When the second stage of labor has been accomplished, this — perhaps the most exhaustive work of all — leaves the uterus wearied, and *rest* is required for an accumulation of power. After a period of repose of variable length, corresponding to the amount of exhaustion or the recuperative power of the patient, a feeble contraction occurs, then a stronger one, as power returns, thus progressing until, portion by portion, the placenta is gradually separated and finally expelled.

During the peroid of rest, coagulation has time to take place in the uterine sinuses. During this time the hand of the accoucheur rests upon the uterus and performs the duty of a watchman, and informs us continually of the uterine condition.

There is no necessity for rubbing or pressing the uterus to stimulate it to contract until it has had time to recover its ability to do so. Then if the power is there but not developed, such manœuvres may call forth the latent power. Of course, after sufficient time has elapsed for rest, and then if contractions do not occur, even when stimulated, there is then an abnormal condition, and it must be dealt with.

When the uterus is able, it will labor to detach the placenta which has hitherto acted as a tampon until nature's tourniquet is prepared.

Whenever the power is able to expel the placental tampon, it is also able to prevent hæmorrhage. Nature's plan is to produce these two results

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simultaneously; and if the placenta be removed before the contractile power is able to close the sinuses, then there will be hæmorrhage.

A period of rest, and time for contractions to expel the placenta unaided, is the natural process in the third stage.

The expression method is to aid every contraction in detaching the placenta by concentric pressure with the hand; and what is the result?

The two forces thus applied — the one natural, the other artificial — expel the placenta much earlier than if the natural force alone was engaged.

The placental tampon is removed by the double force, but the simple force of nature is too often, for want of time, inadequate to close the sinuses, and the artificial is now of no use.

The tampon is removed and the tourniquet is not ready.

Here the mechanical axiom will illustrate my meaning.

"Whatever is gained in power is lost in time; and, conversely, whatever is gained in time is lost in power."

But power is infinitely more precious than time.

The Credé method is said to save time, and it is too often employed for that purpose if the time of the obstetrician is limited.

In the physiological process which obtains in the great majority of cases, neither squeezing from above nor pulling from below is necessary nor advisable.

The artificial "*vis a tergo*" is equally dangerous with artificial "*vis a fronte*," and as likely to produce hæmorrhage.

During the last ten years of my obstetric practice I have fully confirmed the views enunciated by experience.

I know beyond a doubt, in my own mind, that non-interference is incomparably more safe than expression.

The contrast between the two modes of practice is so great, and the physiological is so exempt from this serious complication, that I am pleased to have this opportunity of recording my experience for the benefit of those commencing obstetric practice, for I am well aware that a brilliant array of authorities can be quoted in opposition.

When the uterine contractions are well developed and continued for a length of time without expulsion, then there is undue adhesion, then the conditions are not physiological but pathological, and something is required to aid the normal power in removing an unusual obstacle.

In these cases the Dublin-Credé method is a most valuable aid, and will, in almost all cases, succeed in removing the placenta; and this is done by the combined natural and artificial forces. There is perfect safety from flooding, because the natural power is abundantly developed to close the bleeding-points, even if coagulation has not already taken place.

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The conclusion, then, is, that in these cases expression is highly advantageous and perfectly safe.

Barnes, in his "Obstetric Operations," calls this physiological process "the exploded idea of letting it alone," although he admits there is *sometimes* nothing to do. *Sometimes* should read "rarely anything to do." There is no just cause for organized interference in this last stage. Such is not the case in the two former stages. There is rarely anything to do.

There is no just cause for interference in this last stage.

Lusk, Mundé, Garrigues, and other writers teach and commend the Credé method, but do not point out definitely when it should be applied, nor limit its application to cases in which a pathological condition exists. Credé himself has so modified it as to allow considerable time to elapse before it is applied.

This modification robs the method of much of its danger.

Dorhn, a German writer, advises waiting fifteen minutes before resorting to expression. So far as it goes, this is right; but this is not a matter to be determined by minutes, but by *conditions;* and these conditions are efficient uterine pains, and then this aid is not required. Why offer support where none is required?

At a late meeting of German physicians, the Credé method was discussed and sharply criticised by many, and its use greatly restricted by applying it only to certain cases, and not as a routine method.

We may be proud to be the priests of Nature, but let us not usurp her functions.

A CASE OF EXTRA-UTERINE PREGNANCY. — OPERATION. — RECOVERY.

BY H. M. WEEKS, M.D., TRENTON, N.J.

On Nov. 14, 1888, Dr. H. W. Coleman, of this city, asked me to see a patient with him, stating that he was called to the case about four weeks previously, and found the woman suffering with all the usual symptoms of an abortion. The doctor, after administering a hypodermic injection of a quarter of a grain of morphia, and giving the necessary directions to those in attendance, left, with instructions to be sent for immediately should further indications seem to require his presence.

About midnight the doctor was summoned in haste to his patient, whom he found upon his arrival in a profound state of collapse, pulseless, unconscious, and to all appearances in a dying condition. She re-

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mained in this condition for several hours. Three other medical gentlemen were called in consultation, and it was thought by all that the patient could not recover, and the friends were so informed. She, however, slowly rallied.

For two weeks she continued having sinking attacks with sick stomach and more or less pain, intermittent in character, and attended with a slight discharge of blood from the vagina. She then got up about the house, complained of pain and soreness in the abdomen, more especially at night, and was sick at the stomach in the morning.

On the 3d of November she had a chill, and was more poorly, but continued going about her house until the 14th, when I asked to see her.

Upon examination, I found the temperature 103° Fahrenheit, pulse 130, color very sallow, and the patient exceedingly weak. The abdomen was enlarged more upon the left side than upon the right; very tender to touch.

Vaginal examination revealed a mass situated to the left and posterior of the uterus, soft, boggy, and at one point distinctly fluctuating; the mass was exceedingly tender, and this made a thorough examination impossible. The fundus of the uterus could be plainly mapped out forward and to one side (the right) of the median line, enlarged to about the size of a pregnant uterus of three months. With the above history and the physical signs present, I gave it as my opinion that the case was one of extra-uterine pregnancy with rupture of the tube, and advised an operation as soon as possible.

Two days subsequently the patient was placed in my private hospital, and on November 18, assisted by Dr. J. M. Baldy, of Philadelphia, and in the presence of Drs. Coleman, Phillips, Clark, and Oliphant, of Trenton, and Mr. Kissam, of New York, I opened the abdomen by an incision about three inches in length in the median line. After opening the peritonæum, further progress was exceedingly difficult on account of the adhesions encountered. The omentum was firmly bound to the pubis, abdominal and pelvic walls, and was so thickened and discolored as to be with difficulty recognized. After separating the adhesions, a ligature was thrown around the mass, and about two-thirds of the omentum was amputated. The intestines were matted together, and drawn so far over to the left side that the appendix vermiformis now presented itself directly in the median line at the bottom of the incision; it was very much hypertrophied, and perforated in two places at the extremity; a ligature was placed around it, and it was cut away. After carefully separating the intestines from each other and from the bladder and uterus, and securing several bleeding-points with ligatures, where styptics failed to control the

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hæmorrhage from the separation of adhesions, I was, after forty minutes of tedious and anxious work, enabled to get my bearings, and ascertain with what I had to deal in the pelvis.

Step by step I separated strong adhesions, until the mass was reached, which was found to consist of a large amount of coagulated blood, and the left Fallopian tube greatly thickened and ruptured on the posterior side; also the ovary of the same side, which contained two or three small cysts at the lower part of the mass; and probably what gave the fluctuation spoken of at the time of my first examination of the patient was a small gangrenous cyst, and which undoubtedly accounted for the complications which will be referred to later on.

The tube was tied off and the pelvis cleaned of *débris* as rapidly as possible, thorough irrigation was done, a drainage-tube placed in the incision, and the abdomen closed in the usual manner.

Owing to the necessarily prolonged operation and the extremely weak condition of the patient, being fearful that death would occur upon the operating-table, I did not attempt to find nor interfere with the appendage of the opposite side.

The patient rallied very slowly from the operation, but progressed nicely until the 24th, when the evening temperature was 100° and the pulse quickened to 106. Two days later pus appeared in two of the stitch-holes, and the following day I removed all the stitches. From the time the temperature jumped on the 24th, evidences of sepsis constantly increased, pus discharged from the stitch-holes, and appeared in the drainage-tube; most thorough and constant irrigation was kept up day and night. On the morning of December 1 the patient had a decided chill, and thinking that there was probably pus somewhere confined and being absorbed, though I could not by the most careful examination locate it, I determined to reopen the abdomen and explore, which I did in the afternoon of the same day, again assisted by Dr. Baldy, and in the presence of Drs. Phillips, Clark, and Stuble. Upon reopening the incision, there was found to be an extensive cavity in the abdominal wall to the left of the incision; this was curetted and thoroughly washed and a rubber drainage-tube placed into it. Careful search was then made for other pockets, when high up on the left side, at the site of the omental stump, a cyst was felt; no other collections being found it was determined to close the original incision and reopen over the omental stump, in order to avoid, if possible, the infecting of the cavity to any further extent, and also to secure better drainage. Accordingly, after thoroughly irrigating and placing a drainage-tube in the general cavity, this was done; a large quantity of the most horribly offensive pus was evacu-

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ated, the sac was thoroughly washed, and a drainage-tube inserted, this one making the fourth. The incision, about one and a half inches in length, was closed with interrupted sutures in the same manner as the median incision.

The patient was now placed in bed, and by the most careful attention and stimulation by hypodermic and rectal injection, she rallied and started once more on the road to recovery. During the next four weeks nothing could be given by the mouth, the stomach absolutely refusing to retain anything. Stimulants were given by hypodermic and rectal injection, and nourishment was given in the most concentrated form by rectal enemata. The rectum held out most remarkably during the entire time.

Thorough irrigation of the drainage-tubes was kept up, and they were removed one by one as they could be done away with. The first tube introduced and the one last to come away left behind it a fistulous tract which refused to close, notwithstanding everything was done to induce it to do so. On April 28, 1889, the ligature which was applied at the primary operation to the corneal end of the tube came away, and since that time the tract has entirely closed. In the report of this case, only the principal points of the case have been noted; the details of the technique of the operations and the after-treatment have been omitted. Suffice it to say, that the strictest aseptic precautions were followed out, both at the time of operating and during the whole period of her stay in the hospital, — from Nov. 16, 1888, to Feb. 1, 1889; and though the patient was practically dead three times, and every one who saw her at any time from the day of her entrance until within two weeks of her discharge gave the most unfavorable prognosis, she is at this time perfectly well, has menstruated twice at regular intervals of four weeks, is keeping house, doing her own work, and is not only happy, but a most grateful patient.

45 WEST STATE STREET.

RETENTION OF FRAGMENTS OF PLACENTA WITHIN THE UTERUS AFTER LABOR.[1]

BY C. P. NOBLE, M.D.

FOUR times I have left a fragment of the placenta within the uterus after labor at term, each time thinking that I had delivered the placenta entire. I reported three of these cases in the "Medical and Surgical Reporter," Aug. 25, 1888; the fourth case occurred since that date.

[1] Read before the Phila. Obstet. Soc., May 3, 1887.

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CASE I. — Mrs. S., æt. 23, has had four children and one miscarriage. She was delivered of her sixth child after twelve hours of labor, April 12, 1886. The placenta was delivered by Credé's method; more than usual difficulty was experienced. The cotyledons were somewhat separated; but after a careful examination, I considered the placenta entire. Delivery was accomplished after three or four pains. On being called the following morning, I found that the patient had passed a restless night, and had suffered from severe after-pains. One drachm of Squibb's fl. ext. of ergot had been given and repeated. The pulse was 110. Ergot was continued in smaller doses, and Tr. Opii Deod. gtt. X. given every two hours. Three P.M. she had slept some; pulse 120, temperature 104° F.; had passed urine naturally. Full doses of quinine were given, and the temperature fell to 100° F. Until the fourth day the temperature varied from 100° to 102°, and the pulse from 90 to 110 per minute. The lochial flow was scanty, but not offensive. The treatment employed was quinine internally, with poultices to the hypogastrium. The night of the fourth day the lochia became offensive, when vaginal injections of sublimate solution 1–4000 were begun; also the use of vaginal iodoform suppositories. Fifth day, the symptoms were all aggravated. Sixth day, consultation with Dr. D. Longaker; pulse 90, temperature 101.4°. Careful digital examination revealed adherent placental tissue, and an unsatisfactory attempt was made without ether to remove it. The uterus was irrigated, and an iodoform suppository was introduced. Two grains of quinine and thirty drops of fl. ext. of ergot was ordered every three hours. These manipulations were shortly followed by a chill, with a temperature of 104.2° F. Seventh day, symptoms better, treatment the same. Eighth day, Dr. Longaker removed the remaining placental tissue with his finger, the patient being etherized. The treatment was continued. As before, the manipulations were followed by a severe chill, with a temperature of 104°, followed by profuse cold sweats. Ninth day, temperature 101°, pulse 105. She felt well, and was hungry. Quinine, milk punch, and digitalis were given, and the vaginal injections were continued. Rapid improvement followed. Fourteenth day, temperature and pulse normal; the fetor had disappeared from the lochia, when local treatment was discontinued. The patient made a good recovery under the use of proper tonics. No pelvic inflammation remained.

Among other points of interest in the case were the absence of special tenderness over the uterus, the ability to urinate, the chill after intra-uterine manipulation, and the rapid improvement after the uterus was completely emptied.

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CASE II. — Mrs. G., æt. 24, primipara, was delivered Feb. 4, 1888. Then nothing unusual in the labor. The placenta was expressed by Credé's method. The cotyledons were somewhat separated, but the placenta was considered entire. Slight fever appeared the third day, and continued through the first week. The pulse ranged from 90 to 100 beats per minute, and the temperature never exceeded 101° F. The patient felt fairly well. An examination the fourth day revealed a fragment of placenta less than half the size of the little finger. This was removed, the uterus was irrigated with sublimate solution, and a hundred-grain iodoform pencil was introduced; vaginal injections were continued. There was some fetor during the first few days. Ergot and quinine were used internally. Mrs. G. recovered her strength slowly under the use of Basham's mixture with strychnia. It seemed remarkable that so small a fragment of placenta should cause any disturbance, yet she improved from the time it was removed. At no time was it necessary to use the catheter.

CASE III. — Mrs. S., already referred to as Case I., was again delivered April 1, 1888. The labor was short. The placenta was expressed as in the former labor, with some difficulty, and was considered entire. On the second day, while examining the patient's abdomen, I noticed a fetid odor; but as the patient's pulse and temperature were normal, this was attributed to insufficient cleansing. Sublimate solution 1–4000 had been employed to cleanse the vulva, and the nurse, a neighbor, was directed to wash the genitals more thoroughly. On the morning of the third day there was still no fever, but the odor was still present. An iodoform pencil was introduced within the vagina. In the evening the pulse was 100, temperature 102° F. The vagina and uterus were then irrigated and examined. A fragment of placental or decidual tissue not larger than a bean was found and removed, and a fifty-grain iodoform bacillus was left in the uterus. Fourth day, the pulse was 90, temperature 100° F., and the discharge was still fetid. An attempt to introduce the syringe nozzle within the uterus was unsuccessful and caused considerable pain. A half-soft catheter was obtained and attached to the syringe. The catheter was introduced and the uterus washed out without further difficulty. In about thirty minutes the patient had a violent chill; pulse 140, temperature 103° F. Stimulants were used. In the evening the pulse was 90, temperature normal. The pulse and temperature became permanently normal after the first week, when the putrid odor likewise disappeared. At no time was urination interfered with. The uterus was irrigated once daily, and the vagina two or three times daily. Internally, full doses of quinia, with milk punch and ergot, were given; Basham's mixture and

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strychnia were ordered later. The convalescence was interrupted by an attack of mastitis, which resolved under the roller bandage and rest treatment. The patient became entirely well.

CASE IV. — Mrs. M., æt. 26, was delivered Dec. 30, 1888, of her second child. I reported the case to the society as one in which half an ounce of Squibb's fl. ext. ergot was given by mistake. The placenta was delivered by Credé's method, about fifteen minutes after the birth of the child, with rather more than usual difficulty. The placenta was examined with care. The surface was unbroken, except at one place where a clot adhered. This was roughly rubbed off, but the surface beneath was not critically examined. The placenta was considered entire. This patient had just recovered from a mild attack of intermittent fever, hence I was not surprised the morning after the labor to find the temperature 101° F., pulse 90. Third day, pulse 90, temperature 99.5° F.; patient feeling well. Fourth day, temperature 100° F., pulse 90; feverish and sweating. I had until now considered the irregular temperature due to malarial poisoning — especially as the milk was abundant and the lochia sweet. Quinine had been pushed. Fifth day, temperature 100° F., pulse 90; feels well, but sweats when asleep; appetite good; milk abundant; no tenderness about the hypogastrium; uterus not large, but lochia scanty — no odor. I did not like the dry lips and the sweating. Examination showed that a thin fragment of placenta, perhaps three-quarters of an inch by one inch, attached to the uterus. The patient being from Maryland, I gave chloroform and removed it. The uterus was irrigated and an iodoform pencil introduced. The afternoon temperature was 103° F., pulse 100. The uterus was irrigated twice daily for awhile, then once daily, and iodoform pencils were kept in the uterus. The temperature never rose again above 100° F., but it did not become normal until the tenth day. Quinine, brandy, and food were pushed. Patient made a complete recovery. Some iodine applications were made to the uterus in the third week for a remaining endometritis.

These four cases embrace my experience with retention of pieces of placenta in utero after labor. Having always exercised great care in examining placentæ, I am convinced that it is not always possible to be assured that the placenta is entire. When the cotyledons are not separated, and when no fractures in the placental tissue are present, this is, of course, simple. Likewise no difficulty could be experienced in determining the loss of large fragments. But when a friable placenta is much fractured, and the cotyledons much separated, it is very different, and the absence of small fragments will escape notice, even after minute inspection. The fact that putrefaction of placental tissue resulted in each case

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is of interest. Two of the women were poor, one in comfortable circumstances; but none had an efficient nurse. Had strict antiseptics on the part of nurse and patient been possible, perhaps the patients would have escaped infection, and the placental tissue have been cast off without putrefaction. However, the relation of non-pathogenetic bacteria, so constantly found in the vagina, to putrefaction, is by no means thoroughly understood. I am satisfied that the infection was not conveyed by myself, as I invariably employ rigid personal antisepsis.

A point of interest is the chill which so commonly follows intra-uterine manipulations in septic cases, after abortion and at term, especially when infected placental or decidual tissue has been removed. It is not so common after simple irrigation. The effect is at first to prejudice one against the method, for the chill and prostration are at times alarming. But observation shows that these apparent bad effects are but temporary, and rapid improvement usually follows the cleaning-out and disinfection of the uterus, — perhaps always, if action has been prompt. While nervous influences doubtless play an important part in the production of the chill, yet it must be admitted that momentarily increased absorption of poisonous material, through abrasions caused by the finger or instrument, is also a factor. Hence the utmost gentleness, not only during the removal of the retained mass, but also during the subsequent irrigations, is of the utmost importance. For the same reason, the finger is the best curette; and besides, by it alone is it possible to determine with certainty that the uterus is empty. Under anæsthesia it is easy to explore thoroughly the uterine cavity with the finger.

In discussing these cases, it is unnecessary to consider the propriety of intra-uterine manipulation in the presence of circum-uterine inflammation; but in cases seen early, when absorption of putrid material and perhaps invasion of the tissues by pathogenic micro-organisms is taking place from the uterine cavity, there can be no doubt of the propriety and advantage of clearing out the foreign matter and irrigating the uterus until it is thoroughly disinfected.

In these cases the fever was due to putrid infection rather than to the invasion of the tissues by micro-organisms. It is in cases of putrid infection that early local treatment gives especially brilliant results. In no other class of cases is an early diagnosis of more importance, nor are temporizing measures likely to lead to more serious consequences.

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A FISTULOUS TRACT FOLLOWING LAPAROTOMY FOR PYOSALPINX — FOUR SUCCESSIVE LAPAROTOMIES — RECOVERY.[1]

BY HENRY BEATES, JR., M.D.

In submitting a report of the following case, a somewhat detailed account will be given, because there are two or three points which, if closely studied, will, at least, suggest questions challenging the accuracy of notions prevailing among "abdominal surgeons," upon which are based diagnosis, procedure, and prognosis. The merely mechanical skill necessary to achieve what is termed a "successful operation" is possessed by so many, that on all sides we hear of removal of uterine appendages for all sorts of functional and organic diseases. The acquiescence of patients to the attendant's suggestion is, undoubtedly, largely dependent upon the assurances of the operator that recovery offers by so large a margin as six, eight, and ten per cent., and immunity from suffering by somewhere near ninety-five per cent. 'Tis well enough to cite an operator's report that one hundred and fifty or more consecutive successful operations have been performed; but what is implied by such statements? In this city alone, analysis of the town recovery is demonstrated to mean, *escaped death from operation, to live on suffering from abdominal hernia and fistula, fæcal fistula, neuralgia, and disability.* Our literature teems with such narratives, and what does it mean? Simply that our knowledge is utterly inadequate to warrant this precipitate rashness, both of operative procedure aud prognosis, and that there is demanded a knowledge which will promise, at least, the ability to know when *not* to operate. Subordinate questions present at the table, involving most profound responsibility, such as the removal of a healthy tube and ovary in cases of unilateral pyosalpinx, because there is a prevalent belief that pus in the tube means gonorrhœal infection, and where this radical measure has not been done, subsequently the untouched structures were affected and a second operation required. That such occurrences eventuate no one for a moment questions; but whether pyosalpinx *is* invariably due to gonorrhœa and cannot follow other processes is by *no means settled*. Again, take a pus-tube: in some we have caseous metamorphosis of the whole structure, while in another there is simply retained pus, the tube being distended but not organically altered. Does this suggest any thought? Before we unhesitatingly advise radical measures, let us first

[1] Read before the Phila. Obst. Soc., May 3, 1889.

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know whether our notion is an *ignis fatuus*, or a well-matured and scientifically proven fact. The course of salpingitis, when considered as a disease *per se*, is not clearly and definitely known, and there seems to be no effort to classify the symptomatology, and, in a word, its natural history, into recognized pathological conditions. If the question be propounded, whether pyosalpinx with caseous metamorphosis of the whole tube belong exclusively to the gonorrhœal type, is there a valuable reply? Is it known whether pyosalpinx without this change is an inflammation of another type, or, considering both propositions, are there not cases in which the healthy side remains unaffected if left, and if so, why? Then the alternatives form a group of propositions; *i.e.*, whether in certain conditions it is not better to allow non-interference, because of possible after-results, such as fistula and remaining unbenefited. The case I narrate might be contributory to a definite classification but for incidental conditions which, unfortunately, invalidate any such deductions; and it is for this fact, as well as throwing light upon one cause of abdominal fistula, that I presume upon the society's time.

In November, 1886, I was asked by an abdominal surgeon to see a patient in an eleemosynary institution. Right pyosalpinx was diagnosticated, and her poorly nourished, anæmic, and ill-developed condition, attributed to the long suffering incident to the affection. She had a high-temperature range, and was in agony. The condition, we had every reason to infer, was due to gonorrhœa. The operator removed the affected tube, which was filled with pus and caseous, as well as the ovary, which had undergone cystic changes. The apparently healthy left tube and ovary were allowed to remain. Patient, after three weeks of diminished suffering, was permitted to sit up, and in another was returned from a private institution where she had been placed, to increase chances of recovery, to the original habitat. Here she was immediately, in her enfeebled condition, set the task of scrubbing, with cold water, tin utensils. The condition of the endometrium I do not know, neither do I know whether it had received any special treatment; but certain it is that salpingitis promptly developed coincidently with the chilling. How this was treated I do not know; but in a few weeks I was asked to see the case, and found the left tube and ovary matted together with inflammatory deposit, and the patient suffering intensely. A second operation was decided upon, and when the abdomen was opened, it was decided that the pyosalpinx could not be removed. Patient recovered from this, and was discharged. Having no home, friends secured a residence, where for weeks she suffered from increasing fever and repeated attacks of pelvic peritonitis. She applied to me, begging that an operation be tried, and in

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April of 1888 a third laparotomy was done, and the specimen here shown removed. Indications demanded drainage. The tube (glass) was allowed to remain five days. The site of tube failed to heal, and an abdominal fistula was present. This received all sorts of treatment, with no relief. Circumstances resulted in her entering the Pennsylvania Hospital, where as many opinions and plans of treatment were adopted as there were physicians. Some blamed the long time which the tube was allowed to remain, others suggested that silver wire was left in abdomen, a few believed carelessness in antisepsis to have been the cause, and so on *ad infinitum*. Finally the patient was discharged, and existed with this painful complication until December of same year, when, worn out with suffering, and prevented from supporting herself, she submitted to a fourth operation. The fistula was, under ether, explored and found to be a Y-shaped channel, the stem of which traversed the space between the peritonæum and transversalis fascia, and led to the seat of original disease. This greatly surprised me, as I certainly expected to find it due to the extensive manipulation required in the third operation. The arms of the fistulous tract extended along the cicatrix, upward toward umbilicus and downward toward pubis. This whole tract was thoroughly explored and scraped. At the base of the stem was a small piece of sponge, probably there from treatment of the external orifice, having worked its way down. In addition to this was a suppurating granular surface, which was all removed with a curette. The result proved that the fistula was due to a suppurating surface, as after removal of this it promptly healed. This fistula then was *not* due to a too long use of drainage-tube; and this important factor in treatment should not, from the extremely narrow ground of a single case, be undervalued and hastily condemned. Since this case, I carefully explore fistulous tracts; have had two, and find the condition due to a suppurating surface, which has either been left at time of operation or subsequently developed. Let not the drainage-tube receive the censure which frequently belongs to a hurried, or perhaps incomplete, operation. Where no such conditions obtain, I have yet to see a fistula result from a tube. Now as to the pathology. That gonorrhœa played an important role cannot be questioned; but when the proposition presents, whether the healthy tube and ovary, under similar conditions, should be removed, certainly such a case as this one cannot supply positive evidence, for too many influences of unknown power exist and invalidate any conclusion, whether *pro* or *con*. It is this perplexing condition which determines me to report the case, and have an opportunity of listening to the opinions, as above facts moved them, which this society may offer.

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THE TREATMENT OF PELVIC INFLAMMATIONS.[1]

BY M. ROSENWASSER, M.D., OF CLEVELAND, O.

In the management of cases of chronic pelvic inflammation, the accurate diagnosis is a highly essential element, without which the practitioner is entirely at a loss to know what to do and what to leave undone. The differentiation between the various conditions apparently identical to the touch requires a careful review of the history and symptoms, an experienced tactile sense, and frequently repeated examinations at various intervals. If a careful examination were made under anæsthesia, in the exaggerated lithotomy position, whenever the diagnosis was not sufficiently clear, many false conclusions could be eliminated. There would then be fewer cases of pelvic exudations treated as uterine displacements by the use of the sound and pessary; the number of uterine fibroids, so gracefully and rapidly dispersed by electrolysis, would in a degree diminish, and pelvic cellulitis would be relegated to its proper place in pathology as a phlegmonous inflammation.

If there is any disease in which a difference in treatment based on the social condition of the patient is allowable, it is in these pelvic troubles. The washwoman, the cook, the shop-girl, the seamstress, in short, women dependent for support on their own earnings, will consent to any operative proceeding which promises them speedy relief and the early resumption of the work which alone protects them against a pauper's lot. In these instances the early operation is a boon, and the long-drawn-out treatment under adverse circumstances an unwarranted makeshift. On the other hand, patients whose resources enable them to carry out strictly the demands of a palliative treatment ought to be made acquainted with this alternative before counselling radical measures, except where such measures are vitally indicated. While many of this class of patients are rendered comfortable from time to time by palliative treatment, and an exceptionally few may be permanently cured, it is to be regretted that some authors, through reports of incomplete cases, mislead the practitioner into the belief that the majority of such cases are curable without resort to surgical interference; that the hot douche, the supporting tampon, the application of iodine, and especially the use of galvanism, are the means by which the congestions are relieved, the adhesions softened and finally absorbed, the displacement rendered accessible to correction; in fact, the patient completely restored to health.

[1] Read before the Section for Clinical Medicine, Pathology, and Hygiene of the Massachusetts Medical Society, Dec. 12, 1888.

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My own experience does not fully agree with this roseate view. The following cases, whose histories will be alluded to in outline only, are without doubt representative of numerous similar cases under the care of other physicians. They have one characteristic in common, and that is, their long duration, which renders them so much the more typical of the class now under discussion.

CASE I. — Age 30; married seven years; mother of one child six years old. Consulted me a few months after confinement. Complained of nervous disturbances, severe backache, and great weakness, partly due to semi-monthly recurrent menorrhagia. Examination revealed a subinvoluted, retroverted uterus with chronic endometritis. The application of iodized phenol and the retention of the uterus in its proper position by a hard-rubber pessary relieved the patient. In an unguarded moment a brood of bacteria found access into the pelvis, causing a subacute pelvic peritonitis. When the patient recovered, after an illness lasting four months, we (Dr. G. C. E. Weber being my consultant) found retroverted uterus bound by adhesion, and the ovaries large and exceedingly tender. After the uterus had been freed and replaced, the shortened utero-sacral ligaments could be felt as sharp, rigid bands raising the vaginal vault in corresponding folds. The continuous traction and its reflex results not yielding as rapidly as the patient had hoped, she consulted Dr. T. G. Thomas, of New York, and remained at his private hospital for six weeks, where she underwent some local, but mainly general, constitutional treatment. She returned improved, but still ailing; she finally became pregnant and was confined last July. She is now in better health, but is still wearing a pessary, without which she is miserable, and is not yet cured. This being a case of chronic ovaritis with pelvic adhesions, of right belongs to what might be called the border-line between limited and general pelvic peritonitis, and represents the most satisfactory result obtainable by patient, non-surgical therapeutics.

CASE II. — Age 33; married; mother of three children, last being four years old. Was in good health until three years ago. Gonorrhœal infection progressively traceable from urethra and vagina to uterus and tubes, having caused a moderate pelvic peritonitis. Six weeks after recovery from acute symptoms, examination revealed, besides enlarged and tender ovaries, the presence of a round, smooth, fluctuating, movable tumor of the size of a small orange, not especially tender, occupying the right side of the pelvis; examining a few days later, only the thickened, relaxed walls of the sac formerly filled with fluid could be felt, with increased sensitiveness of the posterior surface and fundus of the uterus. There was at no time after subsidence of the peritonitis any vaginal or

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uterine discharge, except her normal and moderate menstrual flow; nor was there any elevation of temperature. After the lapse of a few weeks the tumor would refill and disappear as before, leaving some sensitiveness posterior to the uterus as high as the fundus. Occasionally a similar tumor would form and vanish on the left side. These recurrences were not connected with the menstrual function. Dr. Weber, consultant in this case also, on one occasion accidentally burst the sac by too strong pressure, but no harm followed. There is no room for doubt that we have here a unique condition of irregular, alternating hydrosalpinx, which discharges its contents into the retro-uterine pouch. The fluid, not acrid enough to inflame, but only to irritate, gradually distends the occluded or highly constricted tube, and by the continually increasing pressure forces its way out either through a narrow angular canal or by rupture at some weak spot, which then is repaired, to be again broken when the sac is filled. The patient is still under observation, and occasionally takes to her bed when she feels a new rupture has occurred. She has not been pregnant since her sickness, nor is she likely to be. Whether she will ultimately get well, or at some period require surgical assistance in case of suddenly developing peritonitis, time will tell.

CASE III. — Age 30; married seven years; sterile; menstruation generally profuse; copious leucorrhœa; suspected infection. Three years ago, while under another physician's care, she took a severe chill; pelvic peritonitis developed, with formation of abscess in the left side of the pelvis in the course of a few weeks. The abscess burst into the bladder; before the abscess wall had collapsed, Dr. Dudley P. Allen, consultant, made a counter-opening from the vagina, and thus drained the abscess, which finally healed after a tedious and very painful illness. The patient has been about for a year, but is still a sufferer. There is quite a bunch of induration to the right of the uterus, besides the retracted cicatrix on the left.

CASE IV. — Age 45; married twenty-three years; sterile; menstruation irregular, at long intervals. For past five years afflicted with vague pains in the pelvis and back, with considerable leucorrhœa. The uterus is enlarged, the vaginal vault tender on pressure, but no distinct tumor can be felt. Being otherwise a sufferer from chronic congestion of the liver, she has not laid much stress by her pelvic symptoms. Two years ago she was suddenly seized with violent pains, beginning in the pelvis and spreading rapidly over the entire abdomen. After recovering from the severe general peritonitis of three weeks' duration, a large, hard, sensitive mass filled the retro-uterine space. Several weeks later the patient found she was passing large quantities of offensive purulent material with each

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defecation. From this time forward she continued improving, but was still far from well. She made a trip to Germany, with a letter to Prof. Aug. Martin, of Berlin, submitting the case to him for operation. In his reply he confirmed the presence of pyosalpinx with communication into the bowel, but had decided first to try the effect of curetting the uterus before undertaking abdominal section. The patient had improved so decidedly upon that treatment that he discharged her as cured. On her return I found her much improved, but the mass posterior to the uterus had not disappeared. During the past summer she was, on several occasions, compelled to remain in bed for days, once for a fortnight, when the pelvic mass had become tender and had rendered her unfit to be about. There has been no discharge of pus from the bowel during the past few months.

The last two cases have had a mixed treatment. The former required surgical interference to save her life, for I am convinced she would have died without drainage. I cannot understand the principle underlying Martin's treatment of the latter case. It was only palliative; for he could not expect the diseased tube to become absorbed or permanently drained, nor would the expected menopause have any influence on a pyosalpinx.

I now quote from E. H. Grandin's citation of Mundé, who completes his history of a case of pelvic peritonitis in this wise: "As soon as she was able to come to my office, I recommended the galvanism, and after about a month's treatment she was as well as ever, and was discharged last March, wearing a small, soft-rubber, Albert Smith pessary, which she thought gave her some support in walking. I gave her directions about the continuance of the galvanism, and have not heard from her since. Hence I infer that she is doing well, as she was of the kind of patients who would be sure to let me know if my treatment had not proved effectual." This to justify my assertion that incomplete cases are wrongfully reported as cured.

The results already attained by men prominent in the surgery of the pelvis warrant the belief that early operations in pyosalpinx will become the established rule; that hæmato and hydro salpinx must be treated according to the individual indications, expectantly or by removal, if peritonitis repeatedly threatens life or seriously impairs health. When we shall have become as familiar with the after-histories of abdominal sections for ovaritis and pelvic adhesions as we are with the natural history of this variety of pelvic peritonitis, it may become possible to differentiate cases fit for operation from those unsuitable. Such cases are too often discharged from hospitals and completely lost sight of, when it is of the utmost importance to know what benefit finally was resultant from an operation not yet fully conceded to be justifiable.

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EDITORIAL.

THE figures in this number show very plainly the condition of the portion of the Fallopian tube which was represented, with a low power, in Plate IV. of the last number of this journal. The resemblance between the lesions here shown and those of chronic endometritis is very striking, consisting of an infiltration of the mucous membrane, with small cells, and the formation of glandular pockets, lined with cylindrical epithelium; although in the wall of the uterus such pockets, or glandular tubes, appear to be merely a multiplication or perverse growth of the glands normally found there, yet in the tube they are wholly abnormal, as the walls of the tube normally contain no glands, while the figures which resemble them on cross section are merely the outlines of the longitudinal folds of mucous membrane (*vide* Plates II. and III. of the last number).

In the illustrations in this number it will be seen that in cases of catarrhal salpingitis the thickening of these folds of mucous membrane (Plate III.) produces recesses, or pockets, which appear on cross section to be closed sacs (Plate IV.), although they are not to be considered as really closed unless there is evidence of distention, with secretion. This condition is noticed by Martin, and aptly compared to the condition of the vaginal portion in cases of erosion. The resemblance to the latter condition becomes much more striking in studying the condition represented by Plates I. and II., representing glands quite similar to those of uterine mucous membrane, which have been formed in the wall of the tube under the influence of chronic salpingitis. It will be remembered that in the first number of this journal a series of photographs was given, showing how, in cases of endometritis with erosion, these glandular growths may spread beyond the physiological limit of cylindrical epithelium, and passing over on to the vaginal portion may replace the flat epithelium by a series of glands and follicles which commonly and clinically are called "erosions," or "ulcerations." Quite similarly such glands bore their way into the muscular wall of the tube, where, physiologically, there are no glands at all; the tube thus becomes thickened and capable of exuding a large amount of catarrhal secretion, which, if retained, gives rise to the well-known forms of distention of the tube. A study of this condition, moreover, gives rise to some important considerations. In the first place, it is easily conceivable that in such a condition, where glandular pockets are burrowing in the muscular wall of the tube, and approaching very near to the peritoneal surface, an adhesive inflammation should be

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excited in the walls of the latter, gluing the tube to the surrounding parts. It is, therefore, unnecessary to refer the adhesions and attacks of adhesive pelvic peritonitis to escape of secretion from the abdominal end of the tube, although this mode of origin undoubtedly may occur during the early stages.

If the analogy of the erosion of the portio vaginalis with chronic salpingitis is admitted, it is of interest to recall the fact that in the former condition such glandular proliferations may pass entirely through the whole wall of the collum, and originating in the mucous membrane of the cervical canal, may appear on the outside near the junction of the vaginal portion with the vagina. If the similar glandular growths in the muscular wall of the tube here represented (Plates I. and II., and Plate IV. of last number, opposite *c*, above *d*) ever develop any such activity of growth, they must inevitably cause just such attacks of inflammation of the surrounding peritonæum as, in fact, are known to occur.

The second consideration of importance in regard to these changes in the wall of the tube is, that by thus approximating the structure of the latter to that of the uterus, they make it possible for an ovum to take root in the tube, and furnish a soil fit for the development of a placenta. It has been pointed out by Professor Tait that so many cases of tubal pregnancy occur in women who have been sterile for years, or who have had symptoms of chronic salpingitis, that he attributes great importance to the latter condition as a cause of ectopic gestation. It will readily be seen of how great importance these glandular pockets would be in retaining and nourishing an ovum in cases where the acute stage has passed away, leaving, however, the alterations in the character of the mucous membrane of the tube. The supplement to this number of the ANNALS contains the beautiful drawings of Orthmann and of Kiderlen, which illustrate Dr. Martin's article on salpingitis, and a comparison of these with the photographs here given is of interest in connection with this subject.

THE attention of some advanced observers and thinkers has been directed to the condition of the newly born infant in those cases where the mother is a morphine inebriate. Some interesting facts have been adduced, supporting the idea that the fœtus does become chronically narcotized through the mother. In the few births that occur when the mother is a narcotic inebriate, the infant is invariably in a state of collapse at birth or soon after. Their usual history is that they become more and more exhausted, and in a few days they sink away.

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If this condition is really the result of the sudden deprivation of a narcotic drug which was received from maternal sources during intra-uterine life, then the value of the therapeutical suggestion of Erlenmeyer is apparent. He is of the opinion that infants of mothers who have regularly taken morphine during the latter portion of pregnancy should be given the narcotic at birth, and that it should be slowly withdrawn, as is usual in the treatment of the adult. The January number of the "Journal of Inebriety" refers to a highly instructive case. In Newark, N.J., a child was born whose mother had used morphine for years to excess. At birth it was in a state of collapse, and seemed at the point of death, when the nurse gave it by mistake a teaspoonful of a solution of morphia intended for the mother. Instantly the child revived, and for several hours was vigorous. When it began to relapse, morphine was given and it revived again. This occurred every four or five hours until the third day, when it died. A sixth of a grain was given on each occasion, with the effect of rousing it up and restoring the circulation and heart's action. When these effects wore away, rapid prostration and general asphyxia followed.

Should future clinical experience corroborate the wisdom of the treatment pursued in this case and others, a valuable therapeutical step will have been taken. — *Quarterly Review of Narcotic Inebriety.*

At the spring meeting of the Board of Directors of the New York Post-Graduate Medical School and Hospital, the following additions were made to the Faculty: —

J. H. Ripley, M.D., Professor of Diseases of Children; R. W. Taylor, M.D., Professor of Diseases of the Skin; J. B. Emerson, M.D., Professor of Diseases of the Eye and Ear; Frederic Baqoe, Ph.B., Professor of Pharmacology.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Friday, May 3, 1889.

[Continued from page 438.]

Dr. H. A. Kelly. — I think that this case reported by Dr. Beates (p. 468) is quite remarkable. I do not know of a parallel one. Both the operator and the patient are to be congratulated on their courage. The treatment of fistula is an important matter, and it is one which every abdominal surgeon will have to consider at one time or another. It is impossible to have a large series of cases

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without meeting with some which require drainage, and where, if it be an abscess, the septum between the abscess and the rectum is very thin. It is impossible to prevent the formation of a fistula by the subsequent breaking down of that septum. I have seen several such cases. They have all run a more or less protracted course, but in the end have gotten well. In one case I had a ureter cyst, due, I think, to puncture of the ureter by the needle used in passing a deep suture in the floor of the pelvis. I have known of cases of infection of ligatures from a tube left in for a protracted length of time. I do not say too long, because it is often necessary to leave the tube in for a long time. I have frequently had ligatures sent to me by patients. In all these cases the fistulæ which have persisted for weeks or months have healed when the ligature has been rejected.

Dr. LONGAKER. — I wish simply to emphasize the point that the drainage-tube is not always the cause of fistula. In one case in which the tube was kept in only thirty-six hours, there is still a fistula; the operation was done four months ago.

Dr. J. PRICE. — I cannot permit the statement of a member of the Obstetrical Society, that he has repeatedly had ligatures returned to him by patients, to go out without a remark. Such has not been my experience, and I think that it has not been Dr. Goodell's. I should like to hear from him on this point. I have never had a ligature come away. The ligatures used are often too large. Such a ligature is dangerous, because its size prevents good tying. I have before called attention to the fact that it is common for patients to die of hæmorrhage. Almost weekly we have in this city patients dying on the table, or shortly after the operation. Deaths from hæmorrhage are exceedingly common, and in many cases the hæmorrhage is due to a large ligature. Where the patient does not die, the ligature almost always comes away. In one case, where the patient had suffered for a long time, Dr. Penrose reopened the abdomen, and found an enormous ligature tied with enormous knots. The patient had submitted to a number of operations for the relief of a fæcal fistula. If sufficiently small and well tied, the ligatures should never come away. I have had a large experience with unhealthy conditions in the pelvis, and have never had a ligature come away, nor have I had fæcal fistulæ or fistulous openings. Nor have I ever had a ligature sent me by a patient after recovery.

Dr. J. M. BALDY. — I think that Dr. Kelly did not say that all fistula cases were due to the drainage-tube. I believe that many cases are due to the tube. I do not believe that it is always the result of previous infection of the ligature. I have used the same ligature from the same

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reel on two cases within fifteen or twenty minutes of each other, and in one case fistula occurred, while the other patient made an uninterrupted recovery. The one with fistula had a drainage-tube used, and the other did not. In regard to large ligatures, I do not believe that such a ligature as Dr. Price exhibited at the County Medical Society is necessarily the cause. In a number of cases I have used this large plaited ligature. In none of these cases was there any accident whatever. I have had three fistulæ. Two followed supra-pubic hysterectomy, and the third was a case in which I assisted Dr. Weeks. It was a case of abscess requiring prolonged drainage for three or four weeks. I referred to this case in my paper a few weeks ago. Since that time a ligature has come away. The ligature is of the smallest size that can be used. The ligature was tied with the Tait knot, and shows the three loops very distinctly.

From the fact that I have used large ligatures with no accident, and have met with fistula after the use of a small ligature, and again using the same ligature on two cases side by side, and having fistula in one and not in the other, leads me to think that it is not the fault of the ligature. I think that we must look for other causes; I believe the tube is one of the most prolific of these causes.

Dr. J. PRICE. — The ligature used by Dr. Baldy is the large twisted ligature. I am sure that he has never used the large plaited ligature to which I have referred. So much silk is a foreign body, and I have never known it not to come away.

Dr. WILLIAM GOODELL. — The subject of fistulæ following laparotomy is a very perplexing one to me. So far as I recollect, I have never had fistula after oöphorectomy. All of the fistula have occurred in the bad cases of ovariotomy and intra-ligamentary cysts. As Dr. Kelly remarks, I do not see how it is possible to avoid the occurrence of fistula where you have a tumor closely fastened to the rectum. I have had a patient return me two ligatures. This was in one of my earlier operations, an oöphorectomy done per vaginam. An abscess formed and the two ligatures were thrown off. I have on several occasions fished ligatures out of a fistulous track, and thus cured it. I am satisfied that one patient on whom I performed ovariotomy a year ago, and who is suffering from a fistula, has a ligature at the bottom of the track.

I am so sure that the drainage-tube plays an important role in many of these cases, that I always deem it a misfortune when I have to leave one in for any length of time.

Over a month ago I operated in a neighboring city on an ovarian tumor. It was a case of malignant cyst, and all of the abdominal organs

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were infected with papillomata. I removed the tumor, which was a large one, and colloid in its character. On the right side I found a papillary mass involving the tube, ovary, and womb, which I made no effort to remove. A glass drainage-tube was put in, and kept in for a week. I then suggested to the physician in charge that a rubber tube be substituted. Yesterday I received a note from him stating that there was evidently an urinary fistula. But I think that the tube in this case had nothing to do with the formation of this fistula, and that the opening into the bladder is the result of the extension of the diseased cancerous mass in the right groin.

I have not had a large number of fistulæ, but all of them have given me more or less trouble. I have a fistula in a case in which I removed an intra-ligamentary cyst some time ago. I have in vain tried to heal it. But the patient is in good health, although she menstruates through the fistula. I do not think that in this case or in others the fistula is attributable to the septic condition of the ligature, nor indeed to the size of the ligature. Yet I am averse to large ligatures.

Dr. H. BEATES, Jr. — I had one case of oöphorectomy which was followed by fistula, and where healing occurred spontaneously after expulsion of a ligature.

Dr. HENRY LEAMAN. — Specimen No. 1. Amelia Gerlach, aged 25 years and 3 months, unmarried, a healthy girl previous to her fifteenth year. In her sixteenth year she suffered with an inflammation of the bowels, for which she was treated by three regular physicians in consultation. She was confined to her bed for three months, and then sent to the country to gain strength. She continued to suffer from that time at every recurrence of her monthly flow, so that she has been almost constantly under medical treatment during the past nine years. Her pain at times was so severe as to bring on nervous symptoms which caused her to lose all control of herself, and she would have to be carried to bed. During the past year she was compelled to give up her occupation of housework entirely.

I saw her first about September, 1888, when she was complaining with her menstrual flow. About Feb. 12, 1889, she came under my care with severe pains in the abdomen, which confined her to bed. These pains were paroxysmal, accompained with chills and rise of temperature. Temperature not exceeding 103°. Urine albuminous. Counter-irritation over the lower part of the abdomen was made with a blister and poultices. While confined to bed in February, a superficial abscess formed in the left labium; after that, some swelling had occurred in left inguinal region. It was necessary to control the pain by opium suppositories and morphia

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powders. Examination revealed enlarged and inflamed tubes — uterus slightly movable, hypertrophied with endometritis, the mass on the right side rising two inches above the pelvis.

The patient pleaded for relief, and when an operation was proposed as the only means of permanent relief, she said that death was preferable to her continual suffering; an unfavorable prognosis was given on account of her general condition and albuminous urine.

March 20, 1889, assisted by Drs. W. M. Welch and R. Leaman, an attempt was made to relieve her condition by an abdominal incision. The pelvis was found completely filled and impenetrable, except on the right side, where a small cavity was found, from which a small mass of *débris* was removed and the wound closed. She did not rally, and died twenty-five hours after the operation. Dr. R. Leaman, who administered the ether, said that he considered her death due to the ether. She took on Cheyne-Stokes respiration while on the table. The quantity of ether taken was a half-pound can.

The post-mortem examination showed a general inflamed condition of the ileum, but no peritonitis. The mass in the pelvis could not be loosened by the hand. It was loosened by the scalpel from the brim of the pelvis. The bladder, uterus, and rectum were adherent in one mass. In the effort to remove the contents of the pelvis, a large abscess was broken on the left side of the uterus, discharging several tablespoonfuls of laudable pus. This abscess, I think, had some connection with abscess that had appeared in the left labium previous to the operation. The end of the appendix cœci was adherent to the pelvic mass. The right kidney was contracted and hard. The spleen was atrophied entirely. The liver and kidneys were free from abscesses. The lung was not examined. There had been no symptoms of lung trouble during her illness.

Specimens of the liver and kidneys are presented with the pelvic structures.

Specimen No. 2. Mrs. Rachel Hippansteel, aged 22; mother of one child, born Oct. 5, 1885. Had a severe labor lasting four days. Some inflammation followed, and in two weeks she was about again. Ever since, however, she has suffered. She worked in a factory, and would have to lose several days at a time now and again. The last nine months was unable to do any work. She had frequent hæmorrhages. When she would walk far, she would be seized with a severe pain in the side. On the 23d of January, 1889, she was taken with severe pain in her stomach and right leg, so that she was confined to bed; she was unable to move the right leg or walk. She was attended two weeks by a physician who said it was working on typhoid. During these two weeks she was in pain all

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the time, and in her own language says the pain was so bad that she pulled the hair out of her head at times. She then changed her physician, who gave her some relief with anodynes. The paroxysms of pain continued, however, to return daily. These paroxysms consisted in violent pains shooting down the right leg anteriorly, and in the inguinal and sacro-ischiatic regions.

These symptoms, which are described as nearly as possible in the patient's own language, were found on examination to originate in a localized spot of inflammation situated in a swelling to the right of uterus and connected with its right tube.

On the 19th of March, assisted by Drs. Hildenbrand and Drueding, the right tube and attached sac, filled with sero-pus, was removed. Her temperature just before the operation was 101°. The highest temperature after the operation was on the second day, when it reached 100⅘°. The drainage-tube was removed on the fourth day. The stitches were taken away perfectly dry on the eighth day.

On the 11th of April she wrote me, "I feel better since the operation than I have at any time since the child was born, and have no pain anywhere."

For the exact pathology of these specimens, I should like to have them referred to the society. They appear to me to be good examples of pelvic inflammation. The one, being wholly overlooked in its incipiency, was progressing slowly and surely to a fatal issue. The other was wrestling with its victim on the principle of catch-as-catch-can.

Dr. M. PRICE: *Rupture of the Uterus.*

Was called to Mrs. B., who was suffering from rupture of the uterus in labor. The rupture took place on the left side and extended some eight inches. Child was delivered by turning; it was a cross birth, back of neck and shoulders presenting at the cervix; a large male child; it was her seventh labor; previous labors easy. She was attended by a midwife, who did not see her until she had been in the labor twelve hours; she at once recognized there was something wrong, and asked the husband to get a doctor.

He called on his own physician, but he was not in; it was my luck to be at home.

I went at once to her assistance. I examined her and found the child presented as stated; she was bleeding considerably at this time, was restless, and greatly disturbed as to her safety. I decided at once to turn and deliver her; upon passing my hand into the uterus, I found the left leg and foot outside the uterus in the peritoneal cavity.

I thought at the time it was best to deliver at once by version, and

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proceeded to do so. I despatched a messenger for aid, who arrived soon after the delivery, Drs. Jos. Price and W. A. Burns.

I had decided to open the patient and either stitch up the rent or remove the uterus. She was pulseless and begging for water. We could see but little hope for her, but decided to do our best, knowing she could not live in her present condition. I opened her, removed the placenta which was in the abdomen, brought the uterus out of the wound, which was slightly contracted at its fundus, with not only a long laceration in its left wall, but considerably torn from its vaginal attachment, with no apparent contractile power left.

My brother and I decided without hesitation that the best chance for the patient would be the removal of the uterus, which was at once done. The time occupied in the operation up to this time was not over five minutes; the application of the noeud stopped the hæmorrhage at once. The ether and injections of whiskey at this time seemed to give some promise of saving the patient, but soon after she was put back to bed, when she no longer had the stimulus of hot water to the peritonæum and the ether, she soon sank, and in thirty minutes after being put to bed was dead.

You may ask why I delayed at all in operating as soon as the discovery of rupture was made; the first and best reason was that the people could not understand a word I said, the midwife little better, and without help and advice under such circumstances one would be rash indeed to open the abdomen of any man's wife, who could see nothing wrong, save the fact that his wife was having a baby, and she had had six before; he more than likely would have thrown me out of the window, — am sure I would under the circumstances. When the matter was properly explained to him by an interpreter, he was willing to have anything done that would save his wife. I never had a case that gave me so much anxiety and trouble in so short a time.

Dr. Wm. Goodell exhibited a womb in which he had performed the Cæsarean section.

The woman became pregnant while the cervix and vagina were affected with cancer. The hæmorrhages had greatly reduced her, but they were in a measure controlled by the use of the curette and the actual cautery. The Cæsarean section was made on March 13, in the amphitheatre of the hospital of the university. Fourteen deep sutures and sixteen superficial ones were needed to close the uterine wound. The mother had an abundance of milk, quite enough for the nourishment of her child, and she did so well that she was to have got out of bed on April 7. But early in the morning of that day a very large hæmorrhage

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took place from the cancerous tissues. Nothing but the tampon controlled this, and she never rallied, dying on the following day; viz., on the twenty-seventh day after the operation. He had not opened the specimen, but had brought it just as it was when removed, with the parietal peritonæum adhering to the uterine cicatrix.

Dr. HOWARD A. KELLY. — I was shown a very interesting specimen by Professor Zweifel, of Leipzig, last summer, removed from a patient dying early in the puerperal period.

This uterus from Dr. Goodell's case, which I am examining, is truly remarkable. In the twenty-seven days which elapsed between delivery and the woman's death, the uterus has undergone almost complete involution, and on cross-section *its walls are of uniform thickness*, and *the line of scar-tissue is invisible*. On the peritoneal surface there is a line of lymph imbedding the knots, and this, with the adhesion of the mesentery to the anterior face of the uterus, is the only naked-eye evidence that any operation has been performed.

The accuracy of the work and the excellency of Sänger's method are here wonderfully demonstrated.

Dr. WM. GOODELL also exhibited two pus-tubes as large as sausages.

The woman, aged 27, had been married three years, and was sterile. Four months after marriage she had symptoms of gonorrhœal infection; at least so Dr. Goodell inferred from her description of them, although her husband denied having ever been infected. Since that time she has had constant backache, pains in the groin, menorrhagia, and profuse leucorrhœa. In addition she could neither work nor walk. The adhesions to the womb, broad ligament, and to the rectum were close and very firm, needing very careful handling. The abdominal cavity was flushed out and a drainage-tube put in. The recovery was uninterrupted.

Dr. JOSEPH HOFFMAN. — This tube is almost identical with one which I removed four weeks ago to-day. There were many adhesions to the bowel. She has not made an uninterrupted recovery, on account of the typhoid condition present at the operation. The tube was probably fifty per cent. larger than that exhibited to-night.

Dr. J. PRICE. — Specimens of pus-tubes as large as the uterus are quite rare. I should very much like to see this tube opened, but I am quite sure it contains pus. Some weeks ago, in the presence of certain men who take a high ground in regard to the presence of pus in these tubes, I incised tubes before the society and showed pus. Again, Dr. Goodell's statement as to the contents of the other tube should be sufficient.

A word in regard to Dr. Leaman's case. That case was treated by a

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prominent surgeon for bowel irritation. She has suffered the tortures of the damned. Most of these pus cases get well, no matter how many adhesions they may have. These patients are treated for everything conceivable, and finally get into the hands of one who removes large pus-tubes, and at once they become healthy and useful women. I have two cases which had been treated for typhoid fever, peritonitis, etc., by prominent men. These patients will not accept my opinion nor that of Dr. Agnew in regard to the necessity for operation, having suffered many things at the hands of many physicians.

Dr. WILLIAM GOODELL. — I had expected to show another specimen, but it was, by the mistake of the nurse, put in simple water instead of in the preserving solution, and was too putrid to be brought here. I mention the condition simply on account of its rarity. It was a case in which there were five fibroid tumors of the labia, — two in one labium, and three in the other. I removed them by dissection and enucleation. In regard to the closing of the wounds, which were bleeding at many points, I debated whether to close them at once, or to stuff them with gauze, and close them on a succeeding day. I, however, closed them at once by means of several layers of catgut sutures, beginning at the bottom of the wounds, and gradually working upward to their edges. A drainage-tube was placed on one side, and on the other a mesh of catgut, which acted perfectly. The parts healed by first intention without any trouble. One tumor equalled in size the largest orange. The others varied in size from that of a walnut to that of a large marble.

J. M. BALDY,
Secretary.

328 SOUTH SEVENTEENTH STREET.

DETROIT GYNÆCOLOGICAL SOCIETY.

STATED MEETING, MAY 1, 1889.

THE Society met at the office of Dr. Manton, the vice-president, Dr. HATTON, in the chair.

EXHIBITION OF INSTRUMENTS, ETC.

Dr. MANTON exhibited a plug which he had devised to promote thorough drainage after dilatation and incision of the cervix. The instrument consisted of a large hard-rubber stem, hollow, with open, truncated, upper end, and having a narrow slit on either side the bole. Plugging and drainage in the operation referred to is very important to insure suc-

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cess, and he had found that the little device exhibited had answered the purpose admirably; in fact, much better than any of the plugs he had ever employed. The instrument is made by Mr. Kuhlman, in three sizes.

Dr. CARSTENS said that the objection held with this, as with other straight stems, — they would drop out unless supported by a cotton tampon, and that involved a good deal of trouble in the constant changing necessary. He preferred a split stem with branches, which would stay in place without further trouble.

Dr. JENKS remarked that some time ago he had exhibited to the Society a pessary made by Tieman, in which the stem was tipped with soft rubber. He had had occasion to use this a couple of times, and found it very satisfactory. He rarely used stems, however, preferring slippery elm.

Dr. TAPPEY said that he had great difficulty in keeping stem pessaries in place. Even with a tampon they would often slip out, as the tampon was apt to shift its position.

WRITTEN COMMUNICATIONS.

Dr. TYE, of Chatham, Ont., read a paper on the prevention of post-partum hæmorrhage.

Dr. JENNINGS thought that the paper under discussion was somewhat opposed to the general practice and teaching. In speaking of post-partum hæmorrhage, the reader did not mention that variety which occurs before expulsion of the placenta. Here, the after-birth is partly detached, or remains in the uterus and bleeding occurs. Such a condition, without doubt, demands Credé's method. He has always remembered the teachings of Dr. Jenks, — to wait a half-hour without interfering. Aside from these cases, Dr. Tye's argument is timely. In Strasburg, where the expectant method is carried out with such excellent results, as far as post-partum bleeding is concerned, they had found that a placenta might remain in utero for twenty-four hours without any contractions resulting. He (Dr. Jennings) thought that a physician's time was altogether too valuable to himself and to the community for him to wait thus indefinitely for the expulsion of the placenta. He was of the opinion that there is a time limit which must be taken into consideration.

Dr. TAPPEY agreed in the main with the reader of the paper, but said that he was surprised that he should ascribe so many cases of post-partum hæmorrhage to Credé's method of expressing the placenta. This had not been his (Dr. Tappey's) experience, and he had employed the method in all his cases.

Dr. FLINTERMANN thought that the less we interfere with a case of

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natural labor, the less danger is there of subsequent mishaps. In many cases of post-partum hæmorrhage we find that the labor is normal from the beginning, and the placenta is expelled by natural forces. Such cases give the physician much trouble. In regard to the Credé method, which has been so severely criticised by Professor Dorn, Credé says that he has been misunderstood. He says that no pressure should be made until the uterus has been stimulated to contract. He recommends his method of expression as a prophylaxis for post-partum hæmorrhage; and in his (Dr. Flintermann's) opinion, if Credé's method is followed, there is little danger of bleeding.

Dr. ANDREWS asked Dr. Tye how long after the delivery of the child the uterus usually began to contract; to which the doctor replied, in fifteen or twenty minutes. Dr. Andrews, continuing, said that the paper read singularly emphasized the lectures delivered during his student days by old Dr. Gilman, of the College of Physicians and Surgeons. He insisted that the patient should be left alone until the uterus began to contract. This rule he (Dr. Andrews) adopted, carefully following the uterus down until the placenta was expelled in fifteen or twenty minutes. When the Credé method came in, he tried it, and his results were similar to those of Dr. Tye. The uterus would contract, but it would always relax, and a clot would form which had to be cleaned out. We must make a distinction in the class of patients in which we use Credé's method. In the lower classes, where the women are well built and of firm fibre, it may succeed; but in the upper classes, where everything is relaxed, he doubted if it was advisable to express the placenta.

Dr. GILBERT said that the one point which interested him most, and which had been brought out in the discussion, was that we should not follow rules, but conditions. He had not had any cases of post-partum hæmorrhage since the early days of his practice, before the introduction of ergot, the application of cold, etc. His method of delivering the placenta is to use gentle friction over the abdomen, at the same time making traction on the cord. If it gives, he continues to pull; but if it does not follow, he stops the traction, maintaining pressure over the uterus all the while. With Credé's method he was not particularly familiar, but he was in full accord with what Dr. Tye had said. He himself followed the old method taught by his instructor, Dr. Churchill.

Dr. GILLETT thought that it is rather difficult to follow out any one method. In his own practice he was accustomed to proceed very much in the manner stated by Dr. Gilbert. He saw no need, however, of waiting longer than fifteen minutes or half an hour. He had had no fatal cases of hæmorrhage in his practice, but had seen some pretty alarming ones.

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Dr. JENKS desired to express his hearty approval of the paper, and the conclusions arrived at. As aptly stated by Dr. Andrews, the management of the third stage of labor depends largely on the patient. If we take a lax-fibred woman, as soon as the waters have been discharged there is a lull, and as soon as delivery has been effected there is another natural rest. His (Dr. Jenks) experience in regard to the Credé method had been the same as that of Dr. Tye and Dr. Andrews. He recalled a case which he had delivered a few years ago, where the placenta had been expressed by the Credé plan. The uterus had contracted well; but while he was washing his hands, the uterus had filled up, and it took the attention of himself and an assistant for twelve hours, keeping up pressure over the organ. If the pressure was let up for five minutes, the uterus would relax and hæmorrhage take place. In a case of Cæsarean section which he had performed after there had been considerable manipulation, the uterus and peritonæum looked bruised, and he thought that the method of expression must have a somewhat similar effect.

Dr. CHITTICK was considerably impressed with Dr. Tye's paper, as coming from a man of experience; and taking this experience in connection with the remarks of Dr. Andrews, be could see wherein he had not been as successful with some of his patients as he could wish. In some cases the placenta was delivered quickly without hæmorrhage, while in others, which appeared equally favorable, there had been severe bleeding.

Dr. CARSTENS said that it is sometimes well to be checked up a little on a subject, lest one should become extreme; and he thought that the paper read this evening might have that effect. He, however, could not agree with the conclusions arrived at by the reader of the paper. How did he know that the hæmorrhages in his cases were not due to some other cause than the Credé method? The question is, what causes post-partum hæmorrhage? Is it due to a lax state of the uterus, to retraction, or to lack of thrombosis? He did not think that thrombosis could take place with the placenta in the uterus. In his last five hundred cases he had had only one or two cases of hæmorrhage. One of the worst cases of bleeding that he had ever had was where the woman was delivered alone. He did not believe that Credé's method, if rightly used, was responsible for the post-partum hæmorrhage attributed to it.

Dr. MANTON remarked that he had listened with great interest to the paper read by Dr. Tye, but had to confess his surprise at the stand taken in regard to the Credé method of placental expression. This method is now practised in nearly all the large lying-in institutions abroad, and has been found to be most effectual and safe. He (Dr. Manton) had learned the method under Credé himself, and was sure that, if properly carried out,

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there could be no danger from subsequent hæmorrhage. His own cases in private practice were too limited in number to be of any statistical value; but he had seen this method used in a very large number of cases in lying-in hospitals, particularly in Vienna, and he did not recall a single case of post-partum hæmorrhage which could be said to have resulted from the employment of this method. Those who criticised the method or had failed in its employment do not, as a rule, understand Professor Credé's statements, or else do not follow his teachings; in fact, it was this very class of cases which led Credé to investigate and adopt the method which now bears his name. He (Dr. Manton) was accustomed to wait until the pulsations of the cord had ceased before tying or severing it, and then turned his attention to the placenta. This usually occupied from ten to fifteen minutes, and by that time the uterus was beginning to contract, and he then expressed the placenta.

Dr. TYE, in closing the discussion, said he thought that it was rather begging the question to say that one could not understand the Credé method as well as another.

In regard to the statement of Dr. Jennings, he intended in his paper to refer only to hæmorrhage occurring after delivery of the placenta. Of course, if there were hæmorrhage before the expulsion of the after-birth, he got the latter away as soon as possible.

He was just as sure that he had practised Credé's method as advocated, as he was now certain that he had less post-partum hæmorrhage since he had abandoned this procedure.

The speaker was highly gratified that his paper had called out so animated a discussion, and thanked the gentlemen who had taken part.

Adjourned.

W. P. MANTON, M.D.,
Editor.

TRANSLATIONS.

AT WHAT MOMENT SHOULD THE CÆSAREAN OPERATION BE PRACTISED. — *Bar. Jour. de Méd., Jan. 6, 1889.*

IF it is desirable to have a moment of election for surgical operations, much more is it so for obstetrical ones; and this fact seems to have been fully realized by authors for all obstetric operations excepting the Cæsarean section. This has probably been due to the exceptional character of the

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operation and the great infrequency with which, heretofore, it has been done. With the developments which have resulted from antisepsis, it may now be considered, in some cases, an operation of choice. It is now generally conceded that the chances of success in this operation diminish the longer it is delayed after the beginning of labor, for the shock and the danger of septic infection must certainly increase with the prolongation of the pain and fatigue of labor. For this reason the rupture of the membranes may be considered an unfavorable symptom, and the statistics of Kayser and Harris show the advantages which have resulted from early intervention. Schroeder declared in 1886 that one should interfere before labor pains appeared, and that the conditions seemed to him unfavorable if the operation were undertaken at a late period of labor. In this opinion most operators have not agreed with him; for of one hundred and thirty-five cases of the operation collected by Sanger, Credé, and Caruso, only three were done before the beginning of labor, — two by the author of this paper and one by Bouilly. In the first case operated upon by the author, the parturient canal was obstructed by a large tumor which absolutely prevented birth by the natural method. The operation was performed a short time before the conclusion of gestation, and the result was satisfactory. After the uterus was opened it retracted readily and the hæmorrhage was slight.

Trent has recently published a paper giving an account of two Cæsarean operations performed before the beginning of labor, in which the uterus did not contract. The elastic ligature was used until the uterus was emptied and the wound stitched; but in neither case, notwithstanding the use of various expedients, could the uterus be made to contract. In the first case the Porro operation was done when the hæmorrhage was found to be uncontrollable, the patient dying of shock on the third day; in the second, she scarcely survived the operation, dying from shock and hæmorrhage. The author of the present paper does not think this should be taken as conclusive proof that uterine inertia will result if the operation is done before labor sets in; and, indeed, such an accident is far from rare in cases in which labor has begun before the operation, and the hæmorrhage may be alarmingly severe during the operation if no elastic ligature is used, especially if the placenta is implanted upon the wall through which the incision is made. In Bouilly's case, which was performed prior to the conclusion of gestation, the uterus contracted satisfactorily, as in the author's first case referred to, and the patient recovered. In the author's second case a modification of the usual technique consisted in the fact that, having reached the uterus, it was punctured with a bistoury and the wound extended upon the finger as a director, instead

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of cutting layer by layer, which is a slower method and much more bloody. No elastic ligature was used, and after the uterus was entirely emptied, it at first contracted well, but soon relaxed, the bleeding being abundant. Fifteen drops of ergotine were injected subcutaneously, and the uterine cavity was filled with sponges. The bleeding stopped after the uterine wound was closed; the cavity was irrigated with a $\frac{1}{2000}$ sublimate solution, and a drainage-tube was placed in the cervical canal. In spite of all precautions, the patient died on the fourteenth day, of general peritonitis. Concerning the point of issue, however, the author's experience would lead him to agree with Schroeder that the best time to operate is just before gestation is completed.

A. F. C.

VASCULAR POLYPOID TUMORS OF THE MEATUS URINARIUS IN WOMEN. — *Jondeau, Le Concours Méd., Jan. 12, 1889.*

One of the most frequent forms of urethral tumors in women is the polypus of the meatus. These are called by the author polypoid vascular tumors with reference to their histological structure. They are of common occurrence, and are found at all ages of life, though they are most frequently found at the period of greatest activity of the genital apparatus in woman; that is, when she is exposed to frequent congestions of the pelvic organs, to numerous inflammatory phenomena, and to frequently repeated disorders in the circulation of this region. Among the most common causes of urethral congestion may be mentioned retention of the urine, menstrual disorders, the menopause, excessive coitus, pregnancy, uterine and ovarian tumors, uterine anteversion, and metritis. Among the causes which favor development of these tumors by the stasis of the blood which is provoked may be mentioned blenorrhagia, tuberculosis of the urinary passages, syphilis, and the neurotic diathesis. These vascular tumors are usually located at the orifice of the meatus, or a few millimetres behind it, and are readily discoverable. They are found upon the inferior wall of the urethra, never upon the anterior wall. At first they are sessile, but having reached a certain stage of development, they hang from a short pedicle with a broad base. Their size is variable, and they give rise to a variety of symptoms, such as urinary troubles, pain, hæmorrhage, and irritation, with itching and smarting. While they are benign in character, they show no tendency to get well spontaneously. They should be treated with considerable care, as the accidents which they determine are sometimes very painful. Medicinal agents can only produce palliative

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results in their treatment. If the tumor is entirely external, one may endeavor to produce a dessication of it by means of suitable astringent pastes or powders; for example, a mixture of equal parts of savin and sulphate of aluminium. If the tumor is small it may be cauterized with nitrate of silver or the actual cautery. The results from the ligature are frequently incomplete. The galvano-cautery is frequently effective, but excision is the best method of treatment, whether with a bistoury, scissors, or the sharp curette. If the meatus is very narrow, or the base deeply situated, the urethra may require dilatation prior to operation. As these tumors are prone to recur, the operation should be completed by application of a caustic. To prevent hæmorrhage and contraction of the urethra, a catheter may be left in the urethra for a few days, and the vagina tamponned for a few hours after the operation.

A. F. C.

RECKLIN. — CONTRIBUTION TO THE SUBJECT OF SPLENECTOMY. — *Gaz. Méd., Jan. 19 and 26, 1889.*

The following cases are to be added to the literature of this subject: —

Kocher removed the organ (1888) for a tumor of doubtful character. During the operation severe hæmorrhage attended the rupture of a very large vein. The depression made by the removal of the tumor was filled with sterilized compresses. The protruding intestines were kept in sterilized warm and moist towels. In the mesentery were several large glands which resembled small supplementary spleens. The tumor was a lympho-sarcoma, and its removal was followed by a long period of illness, in which there was œdema of the limbs, increase in the size of the thyroid gland, albumen in the urine, increase in the number of white blood-globules, and diminution in the hæmoglobin. Kocher favors a median incision for this operation along the lateral border of the external rectus muscle, with a transverse incision, if necessary, at the level of the umbilicus. All substances in solutions or dressings which might possibly lead to poisoning must be excluded. Asepsis must take the place of antisepsis.

Spencer Wells removed a greatly hypertrophied spleen from a woman 24 years of age, Dec. 5, 1887, the patient making a rapid and complete recovery.

Knowsley Thornton reports a successful splenectomy in an anæmic woman, 19 years of age. The tumor was supposed to be either a cystic kidney or a tumor of the ovary, the mistake not being ascertained until the operation. Cyanosis occurred after the pedicle was tied. Con-

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valescence was slow, but there were no changes in the blood nor in the thyroid body. The upper third of the tumor was composed of splenic tissue, and the remainder was a cyst containing serum, which was rich in cholesterine. A second operation by Thornton was performed upon a woman 25 years of age. The condition was diagnosticated as a large retro-peritoneal tumor of the liver or spleen. Profuse hæmorrhage followed the extirpation of the tumor, from which the patient died six hours after the operation. Of thirty-four recorded cases of splenectomy found by Thornton, thirteen were in leucæmic individuals, and all were fatal; of the others, fifty per cent. were fatal. Fritsch has also performed two splenectomies in recent times, — one for sarcoma and one for splenic leucæmia; the former ending in recovery, the latter in death. The general condition of the second patient was fairly good, the white globules being to the red as one to eight, and the blood being coagulable. Four hours after the operation the patient complained of dyspnœa; there was general anæmia, the pulse was 96 to 100, and small, and an hour later the patient died. Death resulted from hæmorrhage, which was supposed to have occurred in consequence of an increase in the intra-vascular pressure, which followed the discontinuance of the narcosis. Fritsch found ninety recorded cases of splenectomy, thirty-nine of which were fatal. The operation was done in forty-three cases on account of simple hypertrophy of the spleen of malarial or leucæmic origin. The ratio of mortality was the same for the malarial as for the leucæmic cases.

Adelmann has recently published a history of splenectomy, from which it would seem that the operation was first done in 1549 by Zanarello, a Neapolitan. A few years subsequently, the operation was successfully done by Viard, a Frenchman. In 1826, Quittenbaum, of Rostock, removed an enlarged spleen from a woman for dropsy; but the condition was not cured by the operation. In 1856, Küehler, of Darmstadt, removed the spleen from a man who had suffered fourteen years from malaria, the patient dying a few hours after the operation. In 1858, Spencer Wells did the operation successfully; and then followed fifty-three operations, which Adelmann has collected, nineteen being performed in Germany, thirteen in England, eight in Italy, five in France, two in America, two in Russia, and one each in Hungary, Roumania, and Spain. Extirpation of the healthy spleen has been much more successful than that of the diseased organ. Death has most frequently been due to hæmorrhage or to changes in the blood after operation. Anæmia, leucæmia, and increased size of the spleen are conditions which are unfavorable to splenectomy.

A. F. C.

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HOSPITAL REPORT.

MURDOCK FREE SURGICAL HOSPITAL FOR WOMEN. — A FEW CASES ILLUSTRATING MENTAL DISTURBANCE ASSOCIATED WITH SURGICAL OPERATIONS.

Of the following cases, the first eight developed their mental trouble, as far as known, after the operation, but we have no record of a case which remained so permanently, the final result being unknown in two cases. Case IX. was cured of a disease already existing. Others who could not be cured by the operation were refused admission.

Case I. — Patient is 70 years of age. She was admitted to the hospital Dec. 1, 1886, suffering from carcinoma of the uterus, which to all appearances was a hopeless case. The operation consisted in removing the diseased tissue with the spoon-saw and applying the cautery very extensively. On entering she could not give her history because of an unbalanced state of mind. She was simple and not at all violent. Following her operation she took on a destructive turn, nearly broke down a door, lighted the gas (by electricity), and set fire to a stand with burning clothing ignited in the gas-jet. Her operation was a success, and she was discharged in a month, the same in mind as when she entered. She was seen again in six months, when she was found in good condition, and a suspicious point about the size of a pea was cauterized. She was doing well when heard from, a year later. This is a very satisfactory result for a case with such extensive disease.

Case II. — Patient is 38 years of age. She entered the hospital Dec. 23, 1886. She had carcinoma of the uterus, broad ligaments, and vagina, giving her severe pain for three months, and has used opium during this period. She was sane on entrance, but for two weeks from the time of operation she developed a condition of mind which was extremely trying to her attendants. There was no violence, but the insanity was especially of the shouting order. Her disease was so extensive that the operation could be only palliative, and she died in about four months.

Case III. — This is the case which was published in this journal in October, 1887, — Case IV., pelvic abscess. She is a Swede, who had acquired sufficient English for all ordinary conversation, yet during her stay in the hospital not one word was spoken in the presence of the attendants. She was not violent, but very ugly and disgusting. She was not quite recovered at her discharge, and the mental condition had not im-

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proved. A year later she met her nurse, who did not recognize her, so great had been the change. She could speak freely and was perfectly well.

CASE IV. — This patient was 28 years of age, unmarried, and suffered from endometritis causing dysmenorrhœa. The uterus was antiflexed and three and one-half inches in depth. Her treatment was dilatation and curetting and an iodoform pencil inserted into the uterus. She soon began to be disagreeable, and was dissatisfied with what she had and what was done for her. She made false and peculiar statements about her symptoms and the treatment (tampons) which had been applied. Her countenance was that of a person not far from a raving condition. For about ten days she showed no tendency to be violent, and did not change either way in her mental state. She wished to leave the hospital on account of a discontented feeling and a desire for more to be done, and to be as quiet as possible. She went to Dr. Burt's private hospital, and in two days became extremely violent and tried to dispose of herself and injured those present. There was no reason which could be assigned for this sudden change, unless due to the fact that she learned of the presence of a male patient in an adjoining room. It was difficult to say which patient was the more affected. She was sent home immediately, and has not been heard from since.

CASE V. — This patient is 46 years of age. She has one child of 12. She entered the hospital December, 1888, to be operated for cystocele and ruptured perinæum. Her statement was that she suffered from every complaint imaginable. This, however, is not an unusual statement. Following her operation there was a decided change in her mental condition. She never became violent, but was irrational in her remarks, did not seem to understand the position she occupied, and acted very peculiarly in regard to her treatment. She recovered completely from this condition before leaving the hospital, and has been well ever since.

CASE VI. — This patient is a single lady, aged 29. She has suffered severe pelvic pains, for which she had found no relief, and was recommended to this hospital to have a laparotomy performed for disease. The ovaries and tubes were removed, together with a small fibroid on the posterior wall of the uterus. The operation was not a severe one, and there were no unusual symptoms following. No drainage-tube was used, and the incision of two inches healed well. During the first week she began to make peculiar statements, and thought she had recently become the mother of twins. Ten days after her operation she left her bed and wandered about the room. She was soon seen and returned to her bed. A sheet was tied loosely about her body and bed to keep her from suddenly rising,

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and she made no further attempts. She recovered entirely from this condition and joked very pleasantly about it. Since then, December, 1888, she has been well in this respect.

Case VII. — A single lady, aged 23. She complained of severe pelvic pain, from which she did not get satisfactory relief, and an abdominal operation was recommended. She had cystic, adherent ovaries and diseased tubes. Tubes and ovaries were removed through a two-inch incision. A drainage-tube was used, and removed in the usual length of time. It was claimed by members of her family that she had never had any mental trouble, and before her operation there was no indication that there would be any mental disturbance. During the first week she developed an hysterical condition which lasted during the remainder of her stay. She made hideous noises which could not be described, was constantly claiming that she was neglected, especially in respect to stomach trouble, causing belching of wind, and the bowels, which she thought did not move properly with any cathartic; she was crying much of the time. She was a very trying patient, and the numerous visitors did not add anything to the ease of caring for her. She has since recovered completely. The operation was performed in November, 1888.

Case VIII. — This patient was a single woman, aged 26. She suffered with cystitis and had anteflexion and stenosis of the uterus. The treatment was dilatation and curetting of the uterus and insertion of a plug, also irrigation of the bladder. She made considerable complaint, which was all unnecessary and her statements untrue. She was disgusting in her habits, and one of the most filthy patients which it is possible to find. Her operation was in August, 1888, and since her discharge the condition is entirely unknown.

Case IX. — This is a very interesting case, and is inserted here as being exactly opposite to the foregoing cases. It is a case of nymphomania, previously reported, which had caused such a profound effect upon the mental condition that the patient was almost ready for an asylum. The operation performed was for removal of tubes and ovaries (January, 1887). Her condition began to change very soon, and she has since recovered entirely from the intense sexual excitement and melancholy, and is happily married to a widower with family.

Three other cases were admitted in an insane condition, and after examination were refused operation as being unsuitable. This comprises the whole list of cases which could be considered insane in any sense, out of the whole number of cases operated at the Murdock Hospital during the last thirty-two months.

F. L. B.

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Fig. 1.



Fig. 3.

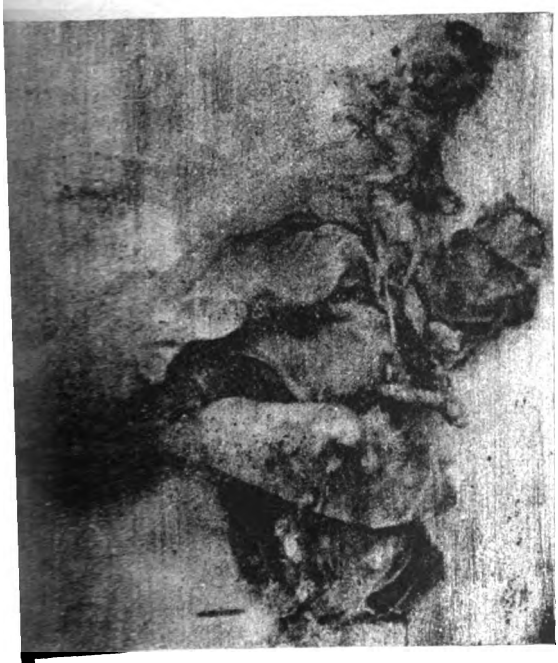


Fig. 2.



Fig. 4.

EXPLANATION OF PLATES.

Plate I., Fig. 1, Case I., left ovary. Two-thirds natural size. **A,** Rupture of cyst.

Plate I., Figs. 2 and 3, Case II., left ovary and tube. **A,** Clubbed extremity of tube. **B,** Disintegrated ovary. **C,** Omental adhesions. **D,** Remains of pus sac.

Fig. 3. Right ovary and tube. **T,** Clubbed extremity of tube dilated into sac. **O,** Ovary.

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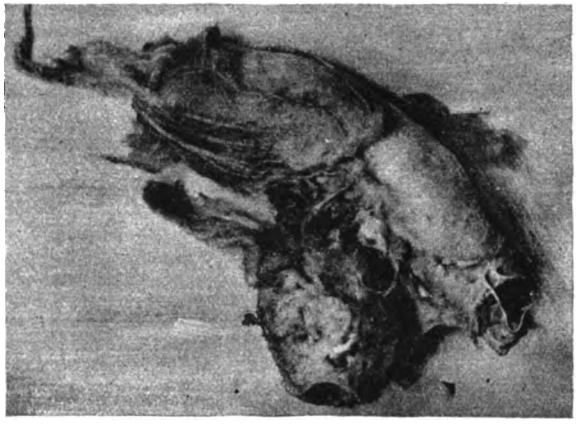


Fig. 1.

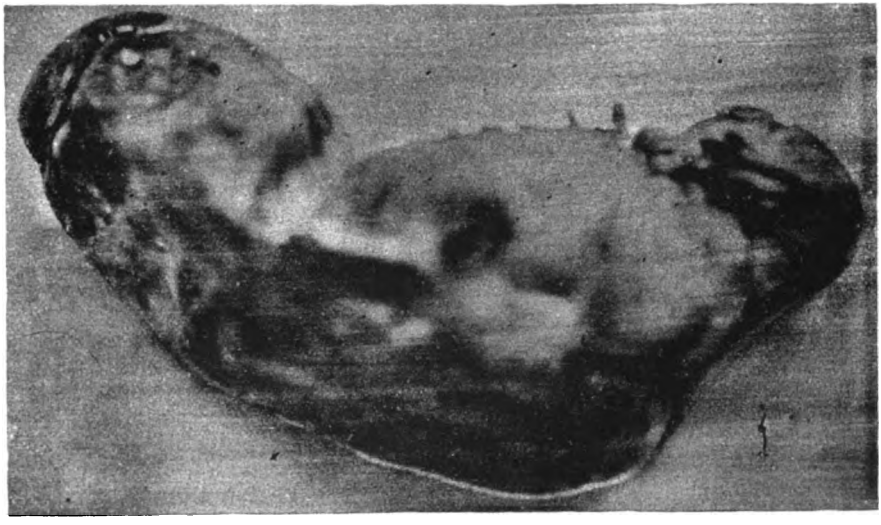


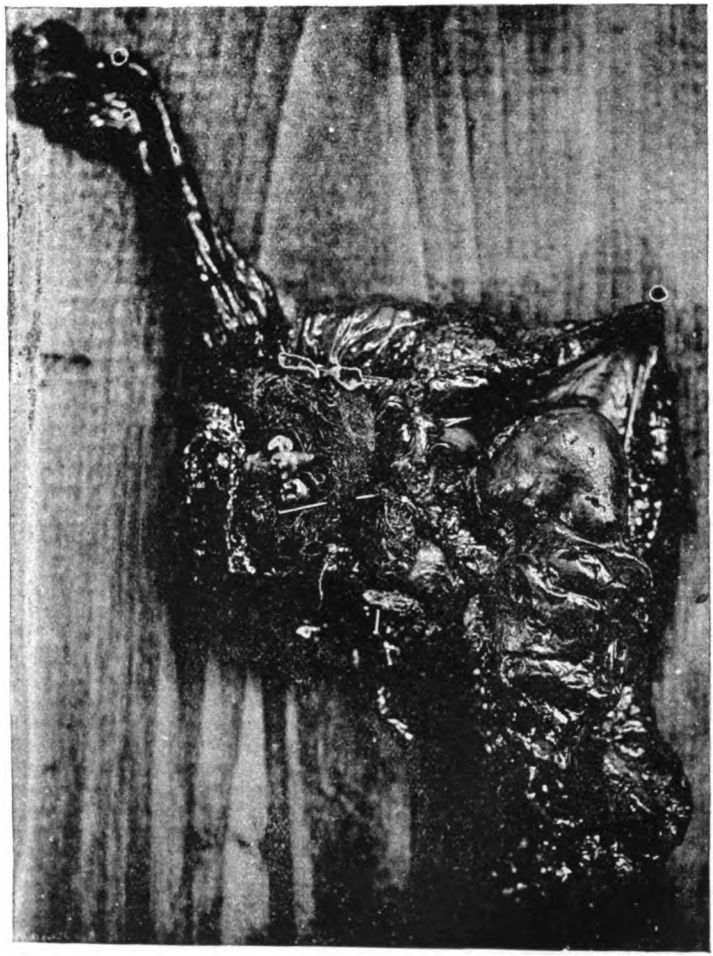
Fig. 2.

Plate II., Fig. 1, Case IV. Left ovary and tube. T, Clubbed extremity of tube, dilated into closed sac. O, Ovary.

Plate II., Fig. 2, Case V. Cyst of Wolffian body, one-half natural size.

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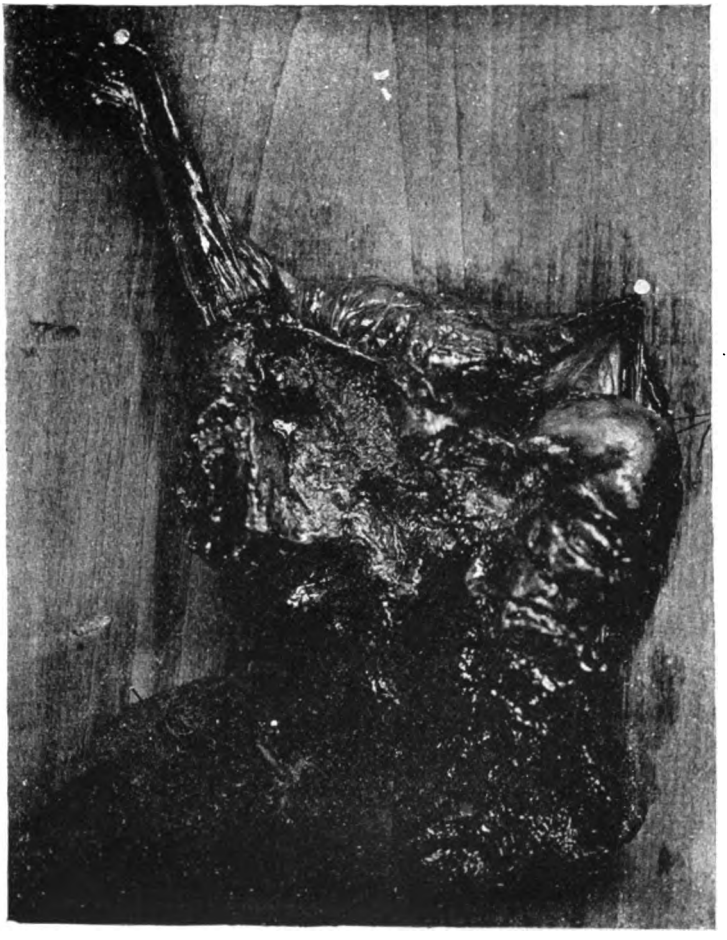


DERMOID CYST.

Causing pelvic abscess, and perforation of bladder by sharp root of a molar tooth. Cyst contained nine teeth and a mass of hair. **A,** Rectum. **B C,** Dermoid cyst. The root of the central tooth was the spiculum which destroyed the bladder. **B D,** Fundus uteri. **E,** Right ovary.

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The same, after removal of dermoid. **A E,** Bed of dermoid cyst. **B C,** Dermoid mass. **B D,** Spiculum of bone.

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ANNALS

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ORIGINAL COMMUNICATIONS.

THE PAST, PRESENT, AND FUTURE OF ABDOMINAL AND PELVIC SURGERY.[1]

BY JOSEPH PRICE, M.D., OF PHILADELPHIA.

UNDER this title I purpose to discuss briefly the salient features of abdominal and pelvic surgery at and before its recognition as a legitimate practice, its aims and accomplishments as now improved, and the possibilities of its attainments by future perfectionment. My paper shall be neither historical, statistical, nor bibliographical, but shall be a concise statement of facts and practice, and of the lines of improvement, as I see it.

Standing, as we now do, amid the wonderful successes of the present surgery, we are prone to accredit nothing to the past, save its feeble efforts and frequent failures. This is neither just nor reasonable. Pioneers in every line of work, scientific or mechanical, or both, have the rubbish of ages to clear away, the superstitions of all who preceded them, and the prejudices of those who surround them. No man controlled in his actions or habit of thought by a prejudice doubts, for an instant, that it does not protect him from error. Here, then, was the field upon which were fought the first battles of abdominal and pelvic surgery. The first operators, had they defiled the Temple, could have suffered no greater condemnation than was heaped upon them for invading the sanctity of the abdomen. The horns of a mad bull might tear it, but the surgeon's knife must never enter it. The early operators must needs, then, tear down opposition, built upon superstition, ignorance, and prejudice, and lay the

[1] Read at Newport, June, 1889.

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foundations upon which is reared the successes of to-day. Their mistakes made possible our successes, their trials made possible our accomplishments, their failures warn us against error. The first great advance in abdominal and pelvic work, upon which depended all subsequent success, was the intraperitoneal treatment of the pedicle. This fact stands out too boldly to necessitate a moment's argument. Then followed the introduction of Listerism, which, fundamentally correct in idea, wrought death by chemicals instead of dirt. Even now this opinion may be disputed. But ere long it will be the rule to keep harmful disinfectants as far away from the abdomen as fetid pus or filth. It stands proven that cleanliness may be, and constantly is, obtained without the aid of any chemicals whatsoever. This opinion I have always held, and have never, in any operation of my own, used chemical disinfectants in any form whatever. Now, as we have learned all this from the experience of our predecessors, so much of our present success is due to the appreciation of early operation, both in obscure disease and well-marked lesions. That "procrastination is the thief of time, and fills unnecessarily many a grave," was too long in being recognized as a surgical maxim. Even yet "the conservative surgeon," conserving his fees while the patient loses her life, hangs upon the skirts of Progress, and impedes her strides. Let no man deceive himself into imagining that delay is conservatism. Delay is the fool's paradise, where laggards wait for luck, instead of pluck, to carry them to success. If any man doubts the advantages of early operation in all phases of pelvic disease, be he surgeon, general practitioner, or electropathist, I would urge upon him to read Mr. Bantock's plea for early ovariotomy.

But now, as we have learned to operate early, we have come to modify our methods of operating. Formerly the array of instruments marshalled at an abdominal section was appalling to the spectator and confusing to the surgeon. Several tables did not suffice to hold them; their names could be held only by the maker's catalogues, ranging, as they did, from the vaccine scarifier to the amputating knife. Now the rule is simplicity. The fewer the instruments, the less is the chance for dirt and confusion, and the greater chance for speed. By speed I do not mean haste and hurry. Quick, earnest, active, thorough work, with no time lost in discussing pathology and specimens, no discussion of methods, and no delay over the less important portions of the operation, are vast factors in obtaining good results. We have now not only learned how to work, but to recognize what is best done and what had better be avoided, as a rule. Formerly death by peritonitis was a constant report. No cause could be assigned in many instances. Finally it was divined that three causes

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were at work, giving these bad results: hæmorrhage from adhesions, hæmorrhage from badly tied ligatures, and an imperfectly cleansed pelvis. This discovery brought into use the drainage-tube and pelvic irrigation, which at the present time has advanced to absolute flushing with a gravity-tube. I cannot too strongly urge upon operators the value of this procedure in washing up débris from the pelvic cavity, that otherwise would remain to infect the patient. Notwithstanding the cry of alarm lately raised by a French operator as to the proceeding, his fears can be passed over as groundless, and the practice confidently recommended as harmless and indispensable to perfect results in many cases. Now, as débris was found to be the cause of many bad results, so hæmorrhage from bad tying of the pedicle was the cause of great mortality.

This led to careful investigation of the after-conduct of both ligature and stump. It was found that the stump did not slough, but organized, and that the ligature became encysted. This fortified the practice of leaving a good button without fear, and led to the employment of as small a ligature as possible; or rather it is now leading to this. Great or heavy ligatures are dangerous, in being less likely to tie well, and in being less apt to become encysted.

The treatment of incipient peritonitis, as now generally adopted by abdominal surgeons, if adopted by practitioners, would be a distinct advance in general medicine. I refer to the use of saline purgation, or, if that is impracticable, to the free use of small doses of calomel. The efficacy of this treatment is so well attested that no man should hesitate to use it in threatening cases, general or surgical. Experience has shown that violent attacks of peritonitis — almost or quite general due to leaking pus-tubes — will yield to this treatment, and an abdomen painful to the lightest touch, and tense as a drum, will become soft and natural. The opiate treatment can give no such showing as this.

From the standpoint of present knowledge, the causation of pyosalpinx, as related to gonorrhœa, is worthy of distinct mention. With its after-effects in view, gonorrhœa in women must receive much more careful treatment in the future than it has in the past. It has been regarded in the female as a disease of only slight importance; henceforth it must be considered as being the possible cause of the most serious pelvic disease found in women. Only those fail to recognize this fact who blindly follow tradition, or refuse to face facts.

Another pelvic disease whose treatment is revolutionized, and whose surgery now remains to be written, is perityphlitis, simple or complicated with appendicitis. Heretofore the treatment has been tentative; now it is positive and radical, displacing weeks of suffering by speedy cure.

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The surgery of intestinal obstruction needs, in great part, rewriting in most of our text-books. Patients are no longer permitted to die of volvulus, stab, or gunshot wounds. Within the last year Senn's hydrogen test has been a giant stride in diagnosis, while the treatment now, of intestinal anastomosis, by Senn's method, offers a comparatively simple measure for serious lesions. But while there has been a positive advance in the lines indicated, even during the last few months, in other directions there has been positive retrogression. I refer to the attempted substitution of electricity for positive surgical interference, in pelvic disease. Like all other novelties and promised cure-alls, electricity has gathered about it men who have failed, men who are fearful by reason of the bad results of others, and men who grasp out for any treatment that promises the most with the least trouble and worry. Pelvic surgery is not *play*, nor should children mentally attack it. If there be a better treatment than the knife for the numerous pelvic troubles we have to deal with, we should welcome it as lessening our work, and adding to our days.

What I demand of the electrical claimants is to furnish proof of their results. When I am called finally to operate upon a patient who has been for weeks under the treatment of currents and counter-currents, and find her no better, and her lesions reduced not one jot, the adhesions not only no better, but worse, must I accept the reports of cures in identical cases, simply on the affirmation of enthusiasts, often incapable of making correct diagnosis? Positive surgery is sure of its ground, knows what it can accomplish by what it has done, and refuses to yield its vantage on mere theory and mere assertion. To a man who has had some measure of surgical success, these electropaths exclaim: "Not every one can expect such results, nor can every one do pelvic surgery; something must be left for the average surgeon." Flattering to the true surgeon as this may seem, it is revolting. The same argument would justify counterfeiting. Again, they say: "Electricity is in the infancy of its application; we do not know its possibilities nor its limitations." If there is any limitation to its results as claimed, I for one would like to know them. Two or three conditions are certainly all for which it has not been claimed a remedy in abdominal or pelvic surgery. For an infant its prowess and accomplishments are most wonderful. That some successful surgeons have identified themselves with this treatment is no argument for its general acceptance. Practitioners from the regular school have deserted to homœopathy; yet the vast majority of us believe that homœopathy is a delusion. So with electricity. Keith may advocate it; yet this does not prove Keith's surgery a failure, nor the abandonment of his art a logical proceeding. His success in the surgery of fibroid tumors was

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marvellous, considering the kind of cases he dealt with. Electricity has no conquests to boast with such cases as his. The error is, in supposing that hysterectomy for minor tumors is as fatal as in Keith's terrible cases, and that because electricity is capable of producing electrolytic effects outside of the body for small growths, it is capable of so acting within the body, where the strength of the current is necessarily limited and the resistance great.

In the light of all this we must demand positive proof, all the more because those who apply the treatment are not in harmony as to the reason for the results claimed. Some affirm it is the electrolytic effects, while others hold to the mechanical results of puncture to originate a change that then goes on of itself. Again, some maintain that the action of the current is simply peripheral, while others insist upon a through-and-through action by reason of a "transport of elements." Such a divergence in essentials must be reconciled in any theory before it can be recognized as scientific.

Leaving this matter, I must refer briefly to the surgery of ectopic gestation. In no other fatal accident has the treatment undergone such a change as in this. After rupture there is now no question as to treatment. Tait's wonderful successes have established the rule: open the abdomen, tie the broad ligament, and clean out the peritonæum. Before rupture we are again confronted by the electrical theorists, who here, as before, claim more than they prove. It is worthy of comment that, with few exceptions, the men who work entirely outside the abdomen are most skilful in diagnosticating its internal troubles. I believe I am safe in saying, that not one-fourth of the cases diagnosticated as ectopic gestation, cured by electricity, have ever been verified; while it is a well-known fact that the most of all cases primarily adjudged ectopic either turn out normal, or else are not pregnancies at all.

While this is the fact, neither the value of electricity as a feticide, nor the after-results of its application, can be intelligently discussed.

One other operation requires notice: I refer to the so-called improved Cæsarean section. The success of this operation, as now practised, is largely due to the same factors of improvement as make other abdominal operations less fatal when compared with earlier attempts. Sänger's introduction of the peritonæum into the line of suture need not be considered as a really indispensable step in the operation, as he himself admits its omission when there is no marked contraction of the peritonæum nor bulging of the uterine tissue. It is questionable whether any Cæsarean section should be done without the entire removal of the uterus, thereby saving the mother the danger of a second operation.

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The removal of the pregnant uterus, besides being a speedier operation, is a safer one. It is right, I think, to give the mother the benefit of every chance.

Briefly considered, the future of abdominal surgery must, so far as improvement is concerned, rely on such steps as will simplify technique, and render operation still speedier. That a better anæsthetic than ether may be discovered, or a means by which chloroform may be safely used, is an end earnestly to be desired.

In intestinal operations the general ability to apply sutures, and resect rapidly, must be the requirement of success. Too many failures in intestinal suturing is a cause of mortality in these cases greater than any other.

DISEASED TUBES AND OVARIES. (PLATES I. AND II.)

BY ELY VAN DE WARKER, M.D., SYRACUSE, N.Y.

THE most conservative gynæcologist must admit that laparotomy for the removal of diseased Fallopian tubes, and for diseases of the ovaries unaffected by aggressive tumors, has a legitimate place in the surgery of women. The operation has had to contend with a strong spirit of conservatism, but also — and this was the more serious obstacle — with a theory of pelvic pathology that by many was regarded as settled. In fact, in 1857, had the *technique* of abdominal surgery of the present day been brought to equal perfection at that date, we would have been better prepared for it than in 1881. At the former date Bernutz had given us his careful study of the pathology of pelvic, ovarian, and tubal inflammation. It was, however, lost sight of. For twenty years other ideas prevailed. Duncan, Emmet, Churchill, McClintock, and many others — the men who were forming opinion from 1860 to 1880 — familiarized the minds of all with an imaginary pathology. The cellulitis, the parametritis, and the phlegmon were heard of to the exclusion of the tube and ovary. The most radical gynæcologist never expressed more than doubt concerning the real nature of the condition described under these terms. The advanced surgery began to work in advance of the pathology of its time. The true pathology had advanced, and like a wave had receded, for the reason that it had advanced beyond the frontier of the current ideas of the period. What makes a fact such a priceless thing is the difficulty of finding it, — clearing it from the strata of ignorance and error in which it lies buried.

Battey, in America, and Hegar, in Germany (1872), began work on independent lines, and both, as we understand it now, on a misconception

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of the pathology of the ovary. It was a true advance, however, and the way was opened. In 1877 Tait practically admitted the inefficiency of the removal of the ovaries in the production of the change of life in bleeding myoma, and showed the necessity of removing the tubes to arrest the hæmorrhage and modify the growth. Attention was thus practically called to the fact of the great change induced in pelvic neoplastic and inflammatory processes by the extirpation of the tubes and ovaries. The opposition came from the pathological school. The observations of Bernutz and Goupil were lost sight of, and the idea that the indurations, adhesions, and inflammatory masses felt in the pelvis were the result of an infiltrate into the cellular spaces, had gained the ascendancy of an established fact. The theory was given greater force by the unfortunate terms, coined by Mathews Duncan, of peri- and para-metritis, designed to explain what were regarded as two well-defined conditions, the causes of one of which resulted in fixation of the uterus, and the other in the mass or phlegmon. That these various pathological states could be the result of an inflammation of tubal origin, and thence invading peritoneal surfaces, and a condition practically incurable without operation, was by some clamorously denied. One reason must not be overlooked, in justice to the pathologists. The laparotomy school had become offensively aggressive. It almost reached the pass that the non-operative gynæcologist had no place left that entitled him to respect. But this active tendency among the extreme surgical school crushed out opposition by what we may term a series of vivisections. By the actual removal of inflamed and disorganized appendages, the adhesions and phlegmons disappeared, and the woman was restored to health, and thus a place for the new surgery was self-created, and pathology was restored back to the period of Bernutz and Goupil. By the year 1884 a multitude of operators were at work in the adventurous field, and to-day there is practically no opposition to laparotomy for the various forms of tubal and ovarian disease of inflammatory origin.

The man who first began to open the abdomen for a purpose other than the removal of an aggressive tumor performed the first act in this surgical evolution. The man who first demonstrated the natural history and morbid structure of pelvic inflammation cleared the way and made a permanent abiding place for the new surgery. Who these men were, we may each have an opinion; but it matters little. History is not the act of one individual, or the date of an event; it is the record of the moral and intellectual evolution that culminates in the man and the event. Not one pair of hands, but many; not one mind alone, but the intellectual evolution of a generation, worked out the problem of tubal inflammation and surgery.

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But while the morbid condition of the tubes is freely admitted, the question, What are diseased ovaries? is discussed with but little agreement. To what extent an ovary inflamed, enlarged, contracted, or indurated, will affect the general health, or how necessary its removal, is very far from being settled. My own idea is, that the condition of the ovary has not so much to do with the question as the importance of the organ as a source of influx disturbance would seem to indicate. The condition about the ovary, — the peri-ovarium, — the adhesions, the exudate, appear to be the factors in the local disturbance. It is not the normal ovaries that we are removing now, unless the organs are involved in diseased surroundings. Small cysts scattered over the surface of the ovary, and in some cases encroaching on the parenchyma of the organ, would not warrant extirpation. I have in mind three cases in which the ovaries were in this condition, in which the histories of the patients gave no evidence of ovarian disease. Such an ovary is capable of performing its proper function, and when free from peri-ovaritis, and the tube in a normal condition, it is doubtful if the circle of reflex disturbance would be either widespread or serious. In Case II., in which we find the ovary invaded by a large cyst that appears to have had its origin in the coalescence of a number of smaller cysts, ovarian disease was masked in the symptoms of salpingitis, and a diagnosis to that effect was made. It was embedded in a mass of exudation, the tube was occluded and distended with fluid. It was impossible to get an idea of the condition of the ovary until it was excavated from its bed. In several instances in which I was induced to make what, in my ignorance, I called Battey's operation for the relief of serious menstrual neuroses by causing the change of life, I had cause to give another name to the operations before I was through with them. In every case I found the ovaries firmly bound down by adhesions, without any antecedent history of so-called pelvic cellulitis. In such a case I believe the symptoms were due to the peri-ovaritis, and not to the condition of the ovary itself.

Many able physicians make the practical objections to laparotomy for diseased tubes, that patients may make perfect recoveries from serious attacks of pelvic inflammation; that phlegmons disappear without suppuration, and that adhesions melt away. Cases of this kind are within the experience of every one. Here the question comes up, How are we to distinguish between a case that will reach a spontaneous cure and one that will never recover without extirpation of the diseased ovaries and tubes? There must be a pathological difference either in degree or kind. I say there must be, because I have never seen an instance of pyosalpinx that got well spontaneously. We hear occasionally that galvanism, or mas-

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sage, or puncture cured cases of this nature; but we always have the suspicion that there was a mistake somewhere. I have an explanation of this seeming pathological contradiction, that to me, in my present knowledge, is a reasonable one. I would reapply the terms of Mathew Duncan, not as explaining cellulitis and the board-like induration of this author, but as applied to all the pelvic genitalia, and not confined to the uterus. I would have peri- and para-salpingitis and like terms applied to the ovaries. As an example of this take the condition in Case I. as an illustration; here the tube and the ovary were enclosed in a mass of exudate, so that when the fingers were introduced a smooth, uniform mass was felt, but neither tube nor ovary. It was possible to enucleate them by tracing the mass outward from the uterus. Conceive of such a state of affairs existing without the element of salpingitis or without disease of the ovary other than its adhesions. Such a condition might typify a form of pelvic inflammation that would tend to spontaneous cure. Associated with a distended and occluded tube we have another state that could not conform to the law of resolution or absorption, but would persist, for months or years, a depot of inflammatory material, always ready for renewed activity. The form then of pelvic inflammation in which spontaneous cure takes place is that of peri-salpingitis and peri-ovaritis, and in which the tube and ovary are left comparatively uninjured. In such a condition we would have masses of considerable dimensions terminate without suppuration in resolution and absorption, a termination that is familiar to us all. It is, to my mind, easier to explain this spontaneous cure as a different thing from the relapsing or incurable form, than as different degrees of the same thing.

The only difficulty in the way of this explanation is the theory that the route of the inflammatory invasion is always through the tube; but I cannot see why we may not assume that the tube could act as the conductor of the infecting agent with comparative safety, while the pelvic peritonæum, less able to withstand the infection, would at once become involved in adhesive inflammation and exudate. My explanation also allows for difference in the infecting agent. Some causes, like the gonorrhœal poison, for instance, expend their force upon the mucous membranes, in which case tubes and peritonæum would suffer alike. Other forms of bacterial infection pass over mucous surfaces without damage, but attack the peritonæum with avidity. One form would subject the woman to hopeless invalidism or salpingotomy; the other would tend naturally to cure. In this way we are able to explain contradictory clinical facts with the very practical bearing, that knowing the nature of the infecting agent, as we sometimes do, in one case we can temporize, and in the other resort to laparotomy.

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The following report of cases will serve to illustrate some of the points already noticed: —

CASE I. — Married; unipara; aged 31. A patient of Dr. Lamb, of Georgetown, N.Y. She had been for six years crippled by left-sided pelvic pain and tenderness on very slight exertion. At irregular intervals for a long time had attacks of muscular spasms, which had been regarded as epileptic, but which were hysteroid. Menstruation profuse, moderately painful. Nutrition unimpaired. Received treatment of some kind at the Woman's Hospital in New York. Admitted to the Syracuse Women's and Children's Hospital. Examination revealed a mass limited to the left broad ligament, immobile, sensitive, with no fluctuation apparent. Movement of uterus partially restricted. Cervix lacerated bilaterally. A diagnosis of salpingitis was made.

Operation. — The left Fallopian tube convoluted, distended, thickened. Left ovary degenerated into a thick walled cyst, one and a half inches in diameter, all deeply embedded in a mass of organized exudation. Enucleation difficult. Uneventful recovery. (Plate I., Fig. 1.)

May 21, 1889. Her physician reports a continuance of hysteria. Local symptoms improved.

CASE II. — Mrs. B., aged 28 years; sterile. Patient of Dr. Magee, of Syracuse. For five years prior to seeing patient, she had presented symptoms such as usually attend pelvic cellulitis, attended with intervals of relapse, during which she was confined to her bed with pain and moderate fever, followed by escape of pus from the vagina. The pus was supposed to escape through a fistulous opening into the vagina. Careful examination failed to discover such an opening. Thickening and induration was proved to exist in the direction of both tubes. Moderate uterine fixation. Careful search, at favorable moments, proved that the pus escaped from the os externum. Diagnosis of pyosalpinx. Laparotomy was suggested to the patient, and eagerly accepted. Admitted to the Women's and Children's Hospital, and operation done. (Plate I., Figs. 2 and 3.)

Aside from suppuration in the abdominal wound, recovery was without event. Both tubes and ovaries removed. June 1, 1889, Mrs. B. called upon me, walking over a mile. Has gained greatly in flesh and perfectly restored to health. She menstruated after the operation, and has continued so to do every month since.

CASE III. — Miss W.; single; age, 25 years; a patient of Dr. Magee, of Syracuse. A delicate, anæmic girl. Able to do no work or take exercise, from the presence of a severe wearing pain, with tenderness in the right ovarian region. Examination revealed the uterus anteverted, of normal dimensions, with moderate cervical catarrh. Bimanual palpation

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gave great tenderness in the right iliac fossa. From the chronic nature of the ailment, and its sudden onset in an acute attack of pelvic pain and tenderness, the diagnosis of salpingitis was made and laparotomy advised.

Admitted to the Central New York Hospital for Women, and laparotomy made Dec. 6, 1889. The right ovary was found hypertrophied, hardened; tube tortuous, occluded, its fimbriæ obliterated. The ovary and tube removed. Left ovary found normal and not disturbed. Recovery rapid and cure complete. (Plate II., Fig. 1.)

CASE IV. — Mrs. B., of Central square, N.Y., aged 29; married; sterile. Menstruation irregular at intervals of three, six, or, in one instance, of twelve months. Nutrition impaired. Suffered for three years from cephalalgia, aggravated to intensity on the rare occasions of menstruation; sacralgia; right and left ovarialgia. Locally the uterus was movable; slightly retroverted; slightly undersized; some slight enlargement in direction; both tubes, no tenderness on thorough palpation. A diagnosis of ovarian neurosis was made, and after a conversance of several months no suspicion of salpingitis was entertained. The operation of ovarian extirpation was never suggested to her; but the patient got the idea from some one, and requested that it be made in order to induce the change of life. As she was hopelessly sterile, and suffering constant misery, the operation appeared highly proper; to that end she was admitted to the Central New York Hospital for Women, and laparotomy made Jan. 9, 1889. Both tubes were occluded, fimbriæ obliterated, and club-shaped; left ovary softened, friable, adherent to surrounding parts, and right ovary beset with a number of small cysts. Recovery speedy and without event.

May 20, 1889. Patient has gained the appearance of much better health. The headaches have nearly disappeared. Has had three attacks since the operation, but was not obliged to take morphia. (Plate II., Fig. 2.)

CASE V. — Mrs. I., aged 49; married; four children; a patient of Dr. Pardu, of Fulton, N.Y. Abdomen enormously distended by what appeared to be encysted ascites. Pelvic examination revealed a considerable mass to the left of the uterus, slightly movable and unattached to that organ. No diagnosis was made, but laparotomy advised. As respiration and locomotion were difficult, from abdominal distention, she readily consented. Admitted to the Central New York Hospital for Women, and laparotomy made Jan. 14, 1889. Peritonæum thickened, large patches of olive-green discoloration over parietes. Transverse colon and intestines adherent. Cavity contained about forty pounds of amber-colored fluid; upon the left, attached by a thin tubal mesentery, was a cyst six inches long, by three in diameter, darkly purple, and very vascular. The thin

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attachment ligated and cyst removed. Ovary and tube healthy and not removed. Right tube and ovary normal. An exceeding rapid recovery. When first admitted to the hospital her temperature was subnormal. This was attributed to fright, as several operations were being made daily in the house, and the patient's dread was excessive, and without any special treatment the temperature became normal. This was probably a cyst of the Wolffian body. Its nearly exact counterpart is described by Mr. Tait, "Diseases of Women," Lond., 1877, p. 221. The case is included in this series for its diagnostic value, as previous to laparotomy it resembled nothing so much as a distended tube with diffused exudative peritonitis. (Plate II., Fig. 3.)

CASE VI. — Mrs. W., aged 32; married; sterile. Excessive dismenorrhœa; wide-spread neurosis; mental irritability; insomnia; morphia habit induced by excessive pain. Patient applied to have ovaries extirpated. As her case had long been familiar, her request was acceded to. Declined to enter the hospital. Attended her at her own home in Wolcott, N.Y., assisted by Dr. A. B. Breese, of Syracuse. Both ovaries were beset of a large number of small cysts; the fimbriæ were adherent to the ovaries. Both ovaries and tubes removed. Recovery somewhat delayed by abscess in abdominal wound. Menstruation ceased. But little is known of the subsequent history of the patient, as her physician has made no reply to repeated requests for information.

CASE VII. — Mrs. B., of Marcellus, N.Y., patient of Dr. C. Billington; aged 34; sterile. Spare and much reduced by excessive pain, located in a mass in right pelvic space, evident on both external and internal palpation. Tumor indurated and very tender. Uterus mobile and anteverted by tumor, which was slightly posterior. Admitted to Central New York Hospital for Women, and laparotomy made in presence of Drs. A. B. Randall, C. Hall, and Billington. Right ovary enormously hypertrophied, bound down posteriorly by a meso-ovarium, indurated; tube occluded; fimbriæ obliterated; ovary removed. Recovery very rapid, with subsequently perfect health.

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A CASE OF PUERPERAL SEPTICÆMIA. — OPERATION NOT INDICATED. — AUTOPSY.

BY GEORGE E. SHOEMAKER, M.D., OF PHILADELPHIA.[1]

BECAUSE of the interest which attaches at the present time to the question of the place of laparotomy in the treatment of post-puerperal trouble, this case is reported. It is one in which the question of operative interference was weighed and decided in the negative — correctly, as was shown by the autopsy.

B., aged 26 years, Irish, having had one child with indefinite history of after-trouble at that time, was delivered, April 23, of a small male child before full term.

At five and one-half months she had had a free hæmorrhage from the vagina, which was stopped under another practitioner's care. Three days prior to the labor, while asleep in bed at 3.30 A.M., she was again seized with free bleeding. She sent for another practitioner, who gave ergot, and the hæmorrhage ceased. There was no pain, and the ergot did not bring on labor. Just forty-eight hours later, while again asleep in bed, another free hæmorrhage occurred, again without pain. Several hours later, or two days after the first hæmorrhage, the writer was called.

The bedclothing, body linen, and mattress were much soiled by large quantities of dried blood. The vagina contained considerable offensive clot, the os was dilated to the size of a half-dollar, and was occupied by clot, the pains were absent, the child living, and presenting L. O. A. The margin of the placenta was easily felt posteriorly and to the right, so that, as might be expected from the history, there was partial *placenta prævia*.

Efforts to remove the septic surroundings were begun at once. The nurse in attendance, ignorant and unclean, with a suppurating skin eruption in the palm of the hand, was discharged, and a trained nurse obtained from that admirable charity, the Visiting Nurse Society. Soiled clothing was removed, a vaginal bichloride of mercury douche given, the matted pubic hair cut off, and the patient's body and hips thoroughly bathed in 1 to 1,000 sublimate solution, this being a greater strength than would have been used but for the decomposition. All this was several hours before the labor terminated; and from a time at least four hours prior to delivery, strict antisepsis was maintained by the free use of mercurials on hands and about the patient. It was too late; the decomposed blood had poisoned the system before delivery, — a clear case of ante-partum infection. Hæmorrhage did not recur, so that no measures were necessary for its

[1] Read before the Philadelphia Obstetrical Society, June, 1880. (See page 532.)

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arrest after the writer assumed charge of the case. It was the intention to perform version at once on its recurrence, as much blood had been lost and the child was weak. The labor terminated spontaneously without complications, the child being alive and the mother in fair condition, though with apparently some rise of temperature. Unfortunately the thermometer was not used. A 1 to 4,000 bichloride of mercury hot intra-uterine injection was given immediately, but the temperature rose above 103° eight hours later; that is, too soon for post-partum infection under the circumstances. There was, however, no tenderness over the uterus, no pain, no sign of peritonitis, and no abnormal odor to the lochia, which were apparently normal. Another 1 to 4,000 bichloride injection was, however, carried into the uterus, and the treatment with quinine and whiskey begun, which lasted throughout the case. Epsom salts, 3ss, hourly till the bowels moved disturbed the stomach without improving the general condition later.

There was no decided change for four days; the fever reached about 103° in the afternoon, but the stomach acted well and the strength was fairly maintained. The lochia were without abnormal odor and of fairly natural appearance till the end of the second day, when the injections were stopped, to be resumed later on the appearance of slight odor. There was at no time any great tenderness about the uterus or over the abdomen, which remained soft and undistended. As the case progressed, no definite local complications appeared. There was no uræmia and no sign of mercurial poisoning; the bowels acted well. On one occasion a considerable swelling occupied the abdomen in the median line below the umbilicus. At first glance it was supposed to be the uterus distended by clot, but when light pressure by the hand was made upon it, much to the writer's surprise the swelling at once and permanently disappeared, while at the same time there was an audible escape of gas, probably from the vagina.

From the patient's mental condition, exact information was not obtainable, and there was no opportunity to repeat the experience. Was this physometra? The pelvis was repeatedly examined, but no accumulations could be felt. There was evidently no considerable amount of necrotic material in the uterus, for the discharges did not indicate it. There were no symptoms of peritonitis at any time, and in spite of the fixed determination of the patient to die, the outlook was fair until after the fourth day. From this time till the eighth and final day the progress was downward. The temperature became 104° in the afternoons, with violent active delirium, obstinate insomnia, and profuse perspiration, especially at night. The stomach and intestines remained in fair order, but the nervous condition was very bad.

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The temperature rose on the morning of the eighth and final day to 106.6°, and the patient died of exhaustion. No attempt at laparotomy was made, because none seemed indicated in the absence of peritonitis or any sign of definite pelvic trouble. With the utmost difficulty, permission was obtained to make an autopsy, the husband being present to see that nothing was removed.

Autopsy, twenty hours after death: rigor mortis; emaciation; abdomen very slightly distended. Abdominal cavity contained the usual amount of serum, which was pinkish red, not turbid; contained no flacculi, but simply stained muslin without leaving residue. No sign of lymph exudate or pus. Peritonæum and intestines pale and smooth without any adhesions and without hæmorrhagic spots. Intestines not over-distended. The uterus, as large as a large fist, was distended by gas, and when compressed remained collapsed like a bag. It was pale bluish-white in color, incision showing the walls to be about one-third of an inch in thickness; the cavity empty of all fluids. A pinkish red, thin, transparent coating of mucus covered the lining membrane. This mucus was not abundant enough to flow — simply a coating. It was examined under the microscope and found to contain no pus, but to be made up largely of epithelial cells of various ages, showing very marked fatty change. The large amount of fat was remarkable. It was not extraneous, as no lubricant could be obtained for use on the hands. The left tube was of the size of the little-finger, and when first touched apparently contained gas like the uterus. It collapsed with handling, but no liquid could be found in the uterine cavity which could have been squeezed from it. It was not adherent, and when delivered with the ovary through the abdominal incision and incised did not look unhealthy, and contained no fluid. The right tube was smaller, and contained no gas. It was adherent to the uterus and the right side of the pelvis by old adhesions, but was delivered with the ovary through the abdominal incision, incised, and found empty. Both ovaries were of normal size, the tubes of a bluish pink, and pale like the other organs and the peritonæum from loss of blood. No collection of pus or any source of infection, removable or otherwise, could be found in the abdomen or pelvis. Other portions of the body were not examined, owing to the exigencies of the post-mortem. There had, however, been nothing to call attention to them. The cause of death then was general septicæmia, with no continued source of infection near the point of original departure.

The question of the treatment of post-puerperal septic conditions by abdominal section, as suggested and practised by Mr. Tait and others, is one of great importance. The reports of successful cases demonstrate beyond doubt that in laparotomy a new and very valuable means of combating some forms of a fatal disorder has been developed.

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Just now we are in need of more definite clinical knowledge as to when the belly should and when it should not be opened. Where peritonitis persists, the profession is rapidly reaching the conclusion that laparotomy increases the patient's chances, or, if there is a distinct purulent collection, that it affords almost her only chance.

Whether pus is to be found in the peritonæum, in the tubes, or in the connective tissue, whose intercellular spaces are continuous with the lymphatic vessels, its removal, followed by drainage, is unquestionably indicated. Where the uterus itself is infected to such a degree that the local use of dull curette and antiseptic douche will not remove the source of infection, there is nothing suggested which is more promising than hysterectomy, though in practice this is likely to prove disappointing from prior general infection. It must not be forgotten, however, in these days of readiness for operation, that there are cases, such as that here reported, where there is early a general infection, not from pus, for there is none formed, nor yet from any remaining focus of infected material; and where it would be just as useless to incise the peritonæum or remove tubes as to remove the stomach hours after a poisonous dose of atropia. There are some cases in which, if they go on long enough, abscess may form late, especially from emboli, where phlebitis exists; but the pus may lie in lung or brain, as well as in more accessible localities, and the hope of recovery does not lie in laparotomy.

What is demanded therefore in each case is a careful study of that case by itself, and repeated examination for foci of infected material. When these are found, they should be removed, if accessible, at the earliest possible moment, and by any safe means which will thoroughly do the work.

DERMOID CYST, CAUSING PELVIC ABSCESS, REPEATED ASPIRATION, DEATH, AUTOPSY. (PLATES III. AND IV.)

BY J. G. TAPPER, M.D., ELGIN, ILL.

JUNE 3, 1889, I was called to attend Mrs. R., age 46, native of Denmark, who gave the following history: Five weeks ago began having severe chills, followed by high fever. At the same time she began to suffer from severe lancinating pains low down in the pelvic cavity. This pain had been of such severity that she had been wholly unable to carry out the suggestions of her former attending physician, who had been led to suspect a uterine fibroid or cancer, and had advised constant out-of-door exercise. Of her past history I could learn but little, save that she had

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been treated for some obscure disease at one of the many excellent hospitals in Copenhagen. Temperature at time of my visit 105°; pulse so wiry and feeble that it could not be counted; tongue very dry and badly fissured. No cardiac lesion could be detected, but impulse very indistinct. Palpation revealed a distinct ovoid intra-abdominal tumor, directly in median line, extending as far upward as umbilicus and deep down in right iliac fossa. Examination per vaginum could be only imperfectly made, owing to great sensitiveness of vaginal parts. The slightest pressure caused very acute pain. From the symptoms and examination, I felt confident we had to deal with a large pelvic abscess, and so informed our patient's relatives. I suggested an anæsthetic being administered, and an exact diagnosis established, if possible. This being assented to, the next day, with the assistance of Drs. Tefft and Stone, an attempt was made to anæsthetize patient with chloroform; yet this was futile, as profound collapse set in at once. Patient was then thoroughly stimulated, besides having exhibited one-quarter grain morphia hypodermically. It was with the greatest difficulty that partial anæsthesia was produced and maintained sufficient to determine the cause of her trouble. It was then found that our suspicion of yesterday was correct. Fluctuation could be detected at one point, to the right and a little in advance of the cervix. The mass occupied a position between the body of the uterus and bladder, widely separating these organs and pushing the uterus back, as a whole, into posterior cul-de-sac. It appeared to extend slightly to the left of the uterus, and also filled the entire broad ligament of the right side. Uterus of normal size. Everything being in readiness for aspiration, the parts were rendered aseptic, and the needle quickly plunged in at the point where fluctuation had been detected. Sixteen ounces of very thick pus was evacuated, when the needle became obstructed, and owing to her alarming condition no further attempt was made. Patient was at once placed in bed, external heat applied, and stimulants freely given. Reaction came on slowly. Her condition materially improved during the three following days. Temperature became normal, vomiting ceased, and she was able to retain and assimilate prepared foods. In spite of her improvement, her pulse continued almost imperceptible. For the purpose of learning the cause of this, I examined chest carefully, and soon satisfied myself that it was a case of extreme cardiac atrophy. Laparotomy was thoroughly discussed early in the history of my attendance, but it could not be seriously considered, owing to cardiac failure when given an anæsthetic. Even ether, which is a direct stimulant, produced equally as depressing effects as chloroform. It was further apparent that a very large amount of plastic exudate had been thrown out, cementing

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the pelvic organs together, and rendering such an operation extremely tedious and complicated, if not impossible. The patient being told of her true condition would not consent to so formidable an operation, preferring, as she expressed herself, to run her chance with less harsh means. The autopsy revealed the reasonableness of these conclusions, as it would have been absolutely impossible to have removed the mass by means of an operation. I therefore determined to attempt a cure by aspiration under use of cocaine, if it were possible. In this my assistants fully concurred. At the close of the third day all the symptoms reappeared. Temperature rose to 104°, and the cavity had refilled. With the same antiseptic precaution and the local use of cocaine I evacuated 32 ʒ of a very thick, heavy pus. By reverse movement of aspirator I thoroughly washed out cavity with a bichloride sol., 1 to 4,000, until fluid returned perfectly clear. She bore operation nicely, temperature became normal before next morning, and from this time there was steady and progressive improvement in the general condition of patient in every way. Bimanual examination now reveals a hardened mass in left ovarian region. It is firmly fixed to rectum and corpus uteri. But very little information can be obtained, as inflammatory exudates appear to have firmly united the various organs. The pus was undoubtedly in the folds of the right broad ligament, and between uterus and bladder.

June 16 there was a refilling of cavity, and again removed as before 16 ʒ of thin pus. Washed cavity as at last time. Continued improvement in general health. June 29, detected traces of reaccumulation. Attempted to remove by aspiration, but found nothing. July 20, removed 20 ʒ of very thick pus. Once more thoroughly irrigated cavity. August 2, 16 ʒ of faintly colored fluid. August 17, 4 ʒ. August 23, 6 ʒ. As I had now given sol. bichlor. hydr. a fair trial, with only partial results, I now determined to destroy, if possible, this pyogenic membrane by the use of a 20 to 100 sol. peroxide of hydrogen. Introduced about ʒ ss with perfect safety. There was no undue evolution of gas. No pain. After bringing it in contact with every portion of pus cavity by a process of kneading, removed products of oxidation by repeated washing with a bichloride sol. 1 to 4,000. Not an unfavorable symptom subsequently appeared. At the expiration of four days, fluid again became manifest. I therefore resorted to the same method. This time I made use of a different sample, but of the same supposed strength. I first removed 2 ʒ of nearly clear fluid. Washed out cavity, and then cautiously introduced my peroxide sol. Scarcely had 2 ʒ passed through our needle before we met our Waterloo. In an instant, a terrific explosion of such violence as if it had shattered the pelvic organs by its force. Without a moment's

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delay my assistant reversed the pump and began to exhaust. The gas having thus escaped, I quickly irrigated cavity, that nothing irritating should remain. But after the battle, what a scene to witness! The collapse of our patient was most profound, and accompanied with a most excruciating pain in the right side. No pulse was perceptible. Stimulants and anodynes were immediately given and the patient placed in bed, surrounded by hot-water bags. Reaction in the course of an hour became manifest, and by the following morning was feeling easy, although very much weakened. After the smoke had cleared away, I began to investigate the damage done. I soon satisfied myself that the force of the explosion had torn apart the recently united surfaces of the cavity. The pain which followed was confined exclusively to the right side. No severe inflammatory action ensued, the highest temperature being 100°, and this but for a short time. It was fully a week before she regained her former strength. From this date until October 5 the progress of our patient was in the highest degree satisfactory. She considered herself as fairly well. I then detected a reaccumulation. This rapidly increased, so that by the 9th I removed 5 ʒ. Removed same amount October 15. After an imprudent exposure on the 26th she became suddenly worse. Fever returned, appetite failed her, and with these unfavorable symptoms there appeared another, which had before only occasionally given us trouble, — an inability to void urine unless in the standing posture, with body thrown forward and supported by hands resting on thighs.

This condition became so aggravated, that by the last of the month the use of the catheter became imperative. Being fully persuaded that the only hope of permanent relief lay in establishing permanent drainage, I determined to make a second attempt at giving an anæsthetic. The same rules were adhered to, but the results were very unpromising. Everything was in readiness before the anæsthetic was given, and as soon as partial unconsciousness was attained I penetrated the cavity with a modified Lester sinus forceps, forcibly separated the bladder, and between them introduced a large-size rubber drainage-tube. Over a quart of horribly offensive pus escaped. Securing the tube by means of a stitch to cervix, I irrigated cavity with a bichlor. sol., and afterwards tamponned vagina with iodoform gauze. The patient was then placed in bed, and to the drainage-tube was attached a long piece of asepticized tubing, and passed into a bottle of carbolated water suspended from the bed. Drainage was perfect and very free.

First	24 hours it	amounted to	32 ʒ,	very	offensive.	Irrigated	3 times.
Second	"	"	" 16 ʒ,	less	"	"	"
Third	"	"	" 12 ʒ,	"	"	"	"

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Continued to diminish in quantity until November 11, when I replaced drainage-tube by a smaller one. Pus escaped for three days, when it ceased, and I withdrew the tube. She now began to complain bitterly of an occasional lancinating pain directly over fundus of the bladder. This was brought on by some sudden movement of the body, or deep inspiration. These gradually increased in frequency and duration. November 15, there was unmistakable evidence of pus being passed with her urine. It was very fetid. I felt satisfied there had occurred some perforation at the fundus of the bladder, but by what means I was at a loss to know.

No pus could be detected upon the right side. I believed that no large cavity existed, but the pus as soon as formed was discharged directly into bladder. Free irrigation was resorted to, and in a short time the amount of matter diminished. The condition of our patient continued to improve until about the 1st of January, 1889, when the pus suddenly increased in quantity, while her ability to retain her urine grew less, until it passed away continuously. Occasionally there came away large fragments of the bladder, showing rapid destruction of this organ. Nothing could be felt to determine the cause of this necrotic process.

January 24, the servant threw away what the daughter supposed was a large piece of bone which had come away with her urine. This was followed the next day by the appearance of two fully developed bicuspid teeth. The cause of our bladder complication was now manifest. In the left side where had been detected a hard mass we had to deal with a dermoid cyst. Pus continued to pour forth, and in spite of our best efforts at cleanliness extensive excoriations appeared on the genitals. Her suffering was extreme, and could not be subdued by the use of anodynes. She gradually failed and passed away. Autopsy: Omentum firmly adherent to pelvic organs. Passing them, we came upon a large left ovarian dermoid cyst, from whose lower and anterior surface projected a sharp spiculum of bone, the point of which extended into space occupied by bladder; the only portion remaining of this organ was a small fragment near the neck and to the right side. No other portion could be identified. Upon inspection, this spiculum of bone was found to be a portion of an inferior maxilla. Two teeth were firmly held in position. The cyst contained nine teeth and the usual amount of hair. (Plates III. and IV.)

Right ovary enlarged and filled with pus.

The entire pelvic contents were firmly cemented together into one solid mass; so strongly were they bound, that the rectum could not be separated without undue force. Abdominal cavity showed signs of well-marked diffuse peritonitis. Liver softened and greatly hypertrophied.

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Right kidney enlarged to twice its normal size; left even larger, and surface covered with disseminate pus cavities. Lungs and pleura normal. Extreme cardiac atrophy. Heart could not have weighed four ounces. Walls very thin and friable. Regret exceedingly that the exact weight of the heart was not ascertained.

CHOLOCYSTORRHAPHY, FOLLOWED BY CHOLOCYSTOTOMY. — EVACUATION OF ONE HUNDRED AND EIGHTY-EIGHT GALL-STONES. — RECOVERY.

BY HOWARD A. KELLY, M.D.[1]

OPERATIVE procedures practised upon the gall-bladder must always remain among the rarities in abdominal surgery, on account of the difficulties attending correct diagnosis, and the technical difficulties of treatment.

The indications for operation are also more rarely found in any intrinsic disease of the gall-bladder, but pertain rather to disease elsewhere, whether through the formation of calculi or stenosis of the common gall-duct, by which the bladder itself is transformed into a retention cyst.

And inasmuch as this is the chief characteristic of the disease, it also forms a very important factor in accounting for the failure of the operation to cure the patient of all disability, and to accomplish more than a mere technical operative success.

Technique. Inasmuch as the operation becomes one for the evacuation of the contents of the gall-bladder or common duct, the technique of the operation involves an answer to the simple question, "What is the safest method of opening the gall-bladder, and the safest after-treatment of the wound thus made?"

Under pathological conditions the contents of the gall-bladder are often irritating, and must be carefully excluded from the peritonæum.

The plan which I adopted in the following case is applicable to a certain percentage of all cases, and will yield excellent results wherever similar anatomical conditions are found.

The steps are, —

Incision through the abdominal walls at that point at which the gall-bladder or its notch in the liver is to be felt most prominently.

Suture of the gall-bladder to the margins of the incision.

Evacuation of its contents, either immediate or after the visceral and parietal peritoneal surfaces have united.

[1] Read before the Phila. Obstet. Soc., June, 1889.

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This preliminary suture of the gall-bladder to the abdominal wall, excluding the peritonæum for danger of septic influence, fixing the gall-bladder, and providing for the subsequent escape of its contents by a fistulous track, is a step in the technique, with its own technical peculiarities, of such importance that I have dignified it by name of "CHOLOCYSTORRHAPHY."

The application of the principles involved will be developed without further discussion in the account of the following case: —

Frau B., a wizened, brown-skinned, little German woman, 50 years old, is the mother of a number of children, and aside from a single attack of jaundice when 30 years of age, enjoyed good health up to twelve years ago, when she lay many weeks abed with a severe febrile attack diagnosed as typhoid fever. She noticed at the same time the appearance of a well-defined tumor in the right hypochondrium. Since this time she has always been a sufferer with abdominal pains, indigestion, and constipation. The pains, although not located in any particular spot, were very definitely referred as arising from the right side.

She suffered from menorrhagia two years ago, for which I was called in consultation by Dr. A. K. Minich, a year ago. After dilatation and curetting and a course of arsenic prescriptions by Dr. Minich, this disappeared, and she improved very markedly in every way.

Last January (1889) I was again called in consultation by Dr. Wintter to consider the nature of her abdominal complaint.

The lobes of a distinctly enlarged liver, also displaced downwards, 10 cm. below normal, with a gall-bladder greatly distended, elastic, and projecting far beyond its fissure, were easily detected, and the diagnosis of obstructed gall-bladder made.

I operated on the 28th of January, in the presence of Dr. Wintter, assisted by Dr. Hunter Robb. As the liver was freely movable, and the gall-bladder lay 3 cm. to the right and 4 cm. above the navel, an incision 4 cm. long was made in the linea alba. It was found to be a large, tense cyst about 13 cm. in length. Upon palpating the rest of the abdominal viscera through the opening, I found extensive mesenteric, small intestinal and colonic adhesions, made up partly of the union of broad surfaces and partly of sharp bands from 4 or 5 to 10 cm. in length. These were all carefully separated and broken up by the fingers used as a wedge between the broad adhesions, and bringing the sharp bands into view when they were cut. The oozing which followed this separation was but slight. The next step was to suture the gall-bladder to the abdominal wall, so as to expose a part of its surface for subsequent incision. This was done by means of a series of fine interrupted silk sutures

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about an eighth of an inch apart, introduced so as to catch up the serous and subserous coats of the bladder and the visceral peritonæum.

The completion of the operation left a small wound, at the floor of which lay exposed a part of the gall-bladder, 3 cm. by 1½. The whole operation lasted to completion ten minutes. Iodoform gauze was placed in the wound, and absorbent cotton and bandage over the whole. On the third day the dressing was removed and the exposed bladder opened in its length by Paquelin's cautery knife. About 300 gr. of clear, sticky fluid like synovia escaped. On the fifth day I removed one hundred and six gall-stones of varying size by means of a pair of small stone forceps. Three days after, forty more were removed, and on the eleventh day forty-two stones more appeared. A stillicidium of fluid commenced with the opening of the bladder, and lasted eighteen days, when the wound closed. The length of the gall-bladder measured by a sound was 11½ cm. On the twelfth day she sat up, and on the twenty-sixth day she went home. The relief following the operation was perfect. She had no more pain, recovered her appetite, and became bright and cheerful in disposition.

DOUBLE OVARIAN CYSTOMA. — OPERATION. — MALIGNANT RECURRENCE.

BY H. M. WEEKS, M.D., OF PHILADELPHIA.[1]

In October, 1888, a case for operation was placed in my charge. The history of the case was briefly as follows: Less than a year (about ten months, as near as the patient could remember) before I saw the patient, she was seized with a sharp pain in the right ovarian region. A physician was called, who diagnosed an acute attack of inflammation of the ovary. Anodynes were freely given, hypodermically and by the mouth, and a blister applied over the seat of pain. The pain still continuing, and the patient growing weak and losing flesh, the physician in attendance was dismissed and another called, who diagnosed an abscess, and treated the case for some time with anodynes, counter-irritation, and fomentation. Then was discovered a slight enlargement of the abdomen, which seemed to confirm the medical man in his opinion of an abscess being present, and he decided to await developments. In the mean time the case passed into still other hands, and this time the physician, upon his first examination, found a tumor in the pelvis, which, however, he was never able afterwards to find. The pain gradually grew less, and, though the patient was weak and did not regain her flesh nor her usual

[1] Read before the Philadelphia Obstetrical Society, June, 1889.

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health, she resumed her household duties, noticing more and more the enlargement of her abdomen upon the right side.

About three months before I saw her she was taken with symptoms upon the left side identical with those which initiated the trouble upon the right side. Dr. H. W. Coleman was now called, and after a careful examination diagnosed an ovarian cystoma of the right side, and commencing trouble of the same kind upon the left side. The doctor advised an operation, and requested that I be called into the case.

Upon examination I found a large tumor high up in the right lumbar region, not very freely movable, and from the vagina it could not be reached by bimanual examination with as much force as was bearable by the patient. Upon the opposite side there could be plainly mapped out an enlargement in the iliac region about the size of a cocoanut. By the vagina this mass was found to be firmly adherent, and filling the entire left side of the pelvis, pushing the uterus forward and to the right of the median line. I gave it as my opinion that there was on the right side an ovarian tumor with long pedicle, and adherent to the abdominal walls and contents above, which accounted for the want of mobility, and also for the height of the tumor in the cavity, and that the mass occupying the left side of the pelvis was a cyst of the left ovary bound by pelvic adhesions. As the patient was in a fair condition as regarded her general health, and was anxious to be relieved of her suffering, I advised an operation as soon as practicable.

The patient was placed in my private hospital, prepared for an operation, and upon the 19th of October, assisted by Dr. Charles B. Penrose, of Philadelphia, I opened the abdomen by an incision about three inches in length between the pubis and the umbilicus in the median line. There was a considerable amount of dark fluid escaped from the incision upon opening the peritonæum, and after separating the omentum, which was adherent to the pubis, I began to release and deliver the mass upon the left side, which was found to consist of a multilocular, papillomatous, ovarian cyst, firmly bound by adhesions to uterus, bowels, and pelvic walls, and also an intra-ligamentous cyst. Everything was firmly adherent, and the bleeding so free from some of the points of adhesion as to require ligatures to be used freely, styptics failing to control hæmorrhage. It was found necessary to increase the size of the incision to about five inches, in order to complete the enucleation and deliver the mass, a portion of which could not be separated from the pelvic wall, and was therefore left behind. I now turned my attention to the large cyst of the opposite side, — a multilocular ovarian cystoma. This was found adherent to the abdominal wall, the colon, and everything with which it had come in

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contact. Adhesions were separated as rapidly as possible, the trocar introduced, and as much fluid as possible evacuated, when the hand was passed in and the smaller cysts broken up, and the whole mass brought out through the incision. A ligature was thrown around the pedicle, which was about five inches in length, and after cutting away the mass the stump was dropped back. The abdominal cavity was thoroughly cleansed by irrigation, a large amount of water being left in the cavity on account of the weak condition of the patient, due to shock; a drainage-tube was placed in the incision, and the abdomen closed in the usual manner. The patient was placed in bed greatly exhausted and profoundly shocked, from which she rallied in about twelve hours, and went forward to recovery without an unpleasant symptom. The patient and her family were informed that there would probably be a return of the trouble, owing to the nature of the tumors removed, and in lieu of the fact that a portion of one of the cysts could not be gotten entirely away.

The latter part of March last, five months after the operation, the patient called at my office to consult me about a pain in the left side, and about an enlargement of that side.

Upon examination I found a tumor about the size of a fœtal head occupying the left side of the pelvis, firmly adherent. I advised another operation, at the same time explaining to the patient and the family that it might not be possible to remove the growth, and, if so, only an exploratory operation would be done, but if possible the tumor would be removed; with this understanding an operation was consented to. The patient subsequently passed into the hands of Dr. J. M. Baldy, who operated.

There were some points in connection with the case that may be of interest, which were not known to me at the time of my taking charge of the case, nor until after she was discharged from my care. The patient had lost a sister, an aunt, and a cousin all with cancer.

Another point in the case was the age of the patient. She gave me her age as 49 at the time of the operation, and when she came to me again in March, she told me she was 50. In this connection, it may be proper for me to anticipate Dr. Baldy somewhat, and state that the patient died of cerebral apoplexy on the 29th day of April, and her age was published as 52 years; but I am informed by very good authority that it was, and always had been, a propensity of this woman to make herself as young as possible, and that she was in reality not a day less than 60 years of age.

Dr. J. M. Baldy reported the following history: —

The subsequent history of Dr. Weeks' case is reported for two

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reasons, — because of the unique ending of the case, and for the reason that we have need of the history of deaths more than recoveries, at present.

I saw this patient some three or four months after the first operation, and found the conditions present very much as related by Dr. Weeks. At the operation which followed, the old incision was found perfectly united. No adhesions to the abdominal wall by intestines or omentum. Tumor as large as child's head and filling the pelvis. The intestines and omentum were adherent over its entire upper surface, excepting at one point as large as a small orange. The cyst was undoubtedly intra-ligamentous and not simply bound down by adhesions. It was composed of smaller cysts, many of which were ruptured in the enucleation. It was too low down and too universally adherent to allow of an attempt at tapping it, and the rupture was unavoidable. It was altogether the most difficult and trying operation I have ever attempted. After its removal there was but one point which was not ragged, showing the condition of universal adhesion. There was no pedicle, and only at two points were adhesions tied. These points might have been dealt with differently, but were tied to spare time. Patches of intestines as large as one's hand were denuded of their peritoneal covering. There was considerable oozing when the abdomen was closed, but as the patient was doing badly under ether, the drainage-tube was trusted to for controlling this, and in a few hours it had all stopped. Irrigation with simple hot water was freely used. She was in bed within the hour, and soon reacted from the anæsthetic. For five or six days she progressed splendidly, and would probably have continued to do so, but the drainage was prolonged beyond all use and the track became infected. There was a quick rise of pulse and temperature, which subsided as quickly within twenty hours on the discharge of a few spoonfuls of pus. She then improved steadily and was considered almost well; in fact, was to have gone home the next day. On the seventeenth day she was feeling better than she had for years, had slept soundly the night before, and had eaten a large breakfast with relish. She was laughing and joking with her nurse, when she suddenly gave a start, became unconscious, and was dead within twenty minutes.

At both operations she had behaved badly under the anæsthetics. The cyst was of a malignant, papillomatous character.

The post-mortem examination revealed the following: Union along line of incision perfect. Omentum adherent to abdominal walls to the left for an inch; to the right, the intestines were adherent over the brim of the pelvis and to the drainage track; at the bottom of the drainage-tube was a small quantity of pus. Pelvis perfectly smooth and clean. Spleen

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normal. Liver normal. Kidneys normal. Heart fatty, infiltrated. The right side dilated with a chicken-fat clot; left side, the walls were thinned. The mitral valves had undergone calcareous degeneration. *Brain:* about two ounces of fluid in the arachnoid cavity; cerebellum soft. In the fourth ventricle a small vessel was found ruptured, and the ventricle was filled with a blood-clot. A piece of calcareous plate was here found.

This clearly indicates the manner of death. It is possible that the action of the heart under the anæsthetic may have loosened the calcareous plate on the mitral valve, and thus been the cause of death some time sooner than would otherwise have occurred. In no other way can the death be attributed to the operation. It is unfortunate that the accident did not delay a few days longer, but then I suppose the friends would have said we moved her too soon.

It is a matter of surprise to me that there were no more adhesions than the autopsy disclosed, the denuded surfaces had been so extensive. Had the trouble with the drainage-tube not occurred, the patient would have been home when she died; but there are some things we cannot control, and the unnecessarily long drainage here is a case in point.

THE MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

THE meeting of the Association at Newport was a notable one in several respects. Scientifically it was entirely satisfactory and creditable, and the work of the sections representing the subjects within the scope of this journal was of great importance, many papers of permanent value being presented and adequately discussed. It has not seemed desirable to attempt to give an abstract of all this work, as this has already been done *in extenso* elsewhere, and as it seems to be more the province of the great weeklies. Some of the more important papers will be given in full in the ANNALS, however, beginning with the article of Dr. Price in this number.

The arrangements reflected credit on the local committee; everything passed off smoothly; there was room for all the sections, and seldom have the members enjoyed such pleasant surroundings as were afforded by the beautiful rooms and grounds of the Casino, where the meetings of the sections were held. The natural beauties of Newport and its vicinity were also much admired by the members, to many of whom the scenery of the bold ocean shore was a novel or unusual delectation. Although none of the fine residences were opened in hospitality to the members of

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the Association in general receptions, yet the proximity to the Casino of the spacious Ocean House concentrated the activity of the members in one locality, and facilitated so greatly the pleasant renewal of old friendships and the formation of agreeable acquaintances, that the lack of the customary hospitality was in no way felt, and the meeting of the Association at a summer resort instead of in a great city seemed to all to be a very agreeable change.

Another fact which made this meeting notable and satisfactory was the large participation of gentlemen who have for the last few years been conspicuous by their absence from the annual meetings of the Association. A decided inclination to bury the hatchet was shown by the unanimous repeal of the article of the constitution which required delegates to subscribe annually to the constitution and by-laws.

The envelopes on which the paternal care of a former *régime* used to require each member to declare substantially that he was truly good and would never be naughty were not seen this year, which shows that there was no warrant for their previous use.

Assurances that such action would be taken brought to the meeting many men who would otherwise never have come, and it is to be hoped that another year will have obliterated all traces of the "late unpleasantness" to an extent that seemed impossible two years ago.

The Association honored itself by selecting for the president for the ensuing year the venerable Dr. Moore, of Rochester, N.Y., and chose Nashville as the place for the next meeting, where we are sure that a cordial welcome and a Southern hospitality awaits the members of the Association.

CORRESPONDENCE

To the Editor of the "Annals of Gynæcology:" —

Sir, — A criticism of my work on "Electricity in the Diseases of Women," in the June number of the Annals, has caused a somewhat stirring change from the pleasing occupation of reading laudatory reviews, and impels me to ask space in your columns for a categorical reply. That the criticism is but slightly personal, and mainly involves the great question of the real value of electricity in certain diseases of women, will doubtless render my remarks more tolerable to your readers.

The enthusiastic young Philadelphia surgeons, whose personality is clearly indicated in the initials appended to the review, have been pretty thoroughly stirred up, it appears. The electrical boom in gynæcology comes fairly into collision with the surgical boom, and, of course, the

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splinters fly. The criticisms of these surgeons on the cases narrated in the work are naturally warm and naturally one-sided, but they are to be welcomed in the main as an indication of the scientific spirit that is happily upon us, with its close scrutiny and healthy agnosticism. That these critics are wrong in most of their conclusions does not detract from the credit possibly due them for good intentions.

Somewhere in the review the critics are unkind enough to ask if the author is a gynæcologist. Presuming that their only definition of this term is "abdominal surgeon," the author is constrained to reply, No. He is, and has been, engaged in considerable work that some call gynæcology, but is always careful to refer proper cases for abdominal surgery to those skilled in that work, including one of the critics. But is this not rather a narrow definition of a "gynæcologist"?

The most palpable blunders of these critics are naturally perpetrated in discussing the preliminary and physical portion of the work. They object to the advice given to students to abstain from reading "any but the most recent works on electro-therapeutics," as narrow and exclusive. One is tempted to fear that they themselves have taken this advice, *without the exception*, for it is well known that of all the confusing jumbles of bookmakers most of the older works on neurological electricity take the lead. "Good collateral reading" of recent electrical literature is most heartily urged upon students, as well as upon the critics themselves.

Copying another criticism emanating from the same group, they actually object to the use of the meter. Their reasons for receding into the past darkness of haphazard guesswork, and giving up this boon of scientific dosage, betray a total want of familiarity with the work. The first reason given, "Because it is by no means settled that all milliampère meters are uniform in their registration of the current," is a mere matter of ancient history. The author has frequently compared the meters made by Flemming, Waite and Bartlett, Barrett, and McIntosh, with each other, and with a more elaborate apparatus in the physical laboratory of the University of Pennsylvania, and has found an accurate coincidence of the readings between all samples turned out by the makers during the last two years. Of the accuracy of recent samples of English and French makers he has no doubt. The second reason, "Because, in the author's own language, the subjective appreciation of pain marks the limit at which the current should be reduced," is even more trifling. The effect produced by an application is by no means indicated by the pain or sensation, for this varies to an enormous extent, with the same current, in different individuals. If pain be taken as a guide, we would find ourselves giving several hundred milliampères to one case, and ten or fifteen to another,

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without knowing the enormous chemical and therapeutic differences of the two applications. The directions given to turn off the current on the appearance of pain were totally misinterpreted by the critics, for the plain inference is, that when pain is produced something is wrong, either in the circuit or in the methods of the operator. In the majority of cases a sufficiency of current can be attained before pain is produced.

The reviewers next object to the experiment on butcher's meat, given on page 37, to illustrate the actual chemical effect at each pole, complaining that the action upon dead tissue cannot be the same as upon the living. Their own position is a mere assumption, growing out of inexperience. The experiment uses dead tissue for convenience only, as it is the rule in each of these illustrative experiments to direct the use of materials available to students; but the author can affirm, from personal observation, that the *chemical* and *cauterant* effects so readily exhibited to the eye in this way are exactly the same in living as in dead tissue, the only difference being a subsequent vital reaction outside the destroyed area in the former case. This can be demonstrated by the author any day upon cases of cancer now under treatment, and can be observed in the accidental burns produced by arc-light currents. With the inaccuracy natural to their inexperience (or is it "attorneys' methods" on their part?) they then proceed to mix up the author's quotation of Parsons' observations on the *polar* effects of the current with the subject of *interpolar* action, treated of elsewhere in the book. The discussion of current action within the two regions is distinctly separated in the book, and all that is claimed for the interpolar region is even more fully set forth in all standard works on physical electricity. A course of Gordon or Clerk-Maxwell is recommended to these would-be electrical experts.

As to the danger of electro-puncture in solid fibroids let experience decide. The author repeats here the teachings of the work, that most cases are arrested and reduced as easily by intra-uterine applications, and hence does not himself use puncture often. That the *submucous* puncture described, using a highly insulated electrode, reduces the danger very materially, he is assured.

Of the lessons to be derived from Dr. Holland's case of extrusion of a tumor during septicæmia different opinions may be held. The whole history as reported was given, including the fact of dangerous flooding at the time of beginning treatment. To the writer it appears that the patient's life was saved by the hæmostatic action of the current, which subsequently also assisted or caused a successful extrusion of the tumor, notwithstanding concurrent septicæmia. Would the critics engage to perform so bloodless an enucleation as reported without the use of the current?

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The portion of this criticism which deserves greatest attention is devoted to the author's cases narrated in the book; but even here evidences of hasty reading and careless statement exist. As to the accuracy of the observations contained in the case records the critics well know that the dispensary cases mentioned were diagnosed and treated in the presence of from one to four physicians, two or three of whom are well-qualified abdominal surgeons, presenting thus the conditions of an ideal control experiment. As to why these cases were not treated by surgical means when such treatment was (in the opinion of the critics) admissible, it should be remembered that electricity, not surgery, was the subject under consideration. As a matter of fact, however, nearly all of these cases had resisted other means of treatment before being placed under electricity.

In speaking of Case VIII., with a history of acute menorrhagia after miscarriage, the point is made that a single curetting would have cured the patient. The critics are forgetful that a single faradic application controlled the hæmorrhage, and that the subsequent occasional negative cauterizations removed the hyperplasia remaining. Would the curetting have done as much, and been as free from risk? The case shows that acute menorrhagia, following abortion, may be cured by two intra-uterine applications of the faradic current. The value of this knowledge to those unskilled in the use of the curette, or unwilling to use it, is apparent.

Case XI. is stupidly misquoted in the statement that it was "toyed" with for seven weeks. The notes state as plainly as possible that this case of menorrhagia, of five months' duration, was treated on four different occasions, namely, September 18, 20, 22, and 25, covering a period of but one week, with perfect results, the additional information being given that a month and half later she remained entirely well.

The exceptions taken to other cases are mere quibbles, as a rule; such, for instance, as denying the existence of a "slightly enlarged" condition of the uterus in Case XII., because the sound showed but two and a half inches plus. Do the critics estimate size by the sound alone? Again, they twist a statement that a cartilaginous, hypertrophied uterus was "softer" after treatment, into a statement that it was "soft," well knowing the difference in the gynæcological meaning of the two words.

The removal of diseased and degenerated tissue by the direct liquefaction of the negative pole is touched upon. That this can be done more speedily and safely by the current than by surgical means is naturally not admitted by these critics, who have never actually observed the solvent power of the negative pole. The power thus wielded over endometritis, I affirm, is both unique and powerful, and has the great advantage of absolute controllability. Whether shreds or remnants of the

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placenta can be as readily removed in this way as by the curette is yet an open question, at least with shreds of any size. Judging from my cases, I should say that when the suspected débris is not manifestly bulky it can be successfully loosened and disintegrated by the electrical application, which also does a needed service in correcting the condition of the endometrium at the same time. The fear of causing stenosis by the treatment may be discarded when my directions are followed, as I invariably advise that the insulation be carried forward on the electrode until the diseased spot is reached, which in this case is within the internal os.

As to lacerations of the cervix, there is nowhere in the book a claim that electricity can effect their repair; but it is more than intimated that in minor degrees of tear the symptoms can be relieved permanently by removing the endometritis and engorgement by this means. I have had, in fact, to resort to it more than once for this purpose in cases in which trachelorrhaphy had failed to better the condition of the patient, or had even made it worse.

The critics' oracular statement, that "any attempt to melt away pelvic adhesions and indurations, other than simple congestion," by electricity "is futile and harmful," is somewhat wide of the mark. No one attempts to "melt" these adhesions by the direct polar action of the current, as they evidently suppose. The methods adopted include the morbid products within the interpolar zone of a galvanic current, and by cataphoric action promote their absorption. This treatment is necessarily tedious in many cases; but, if faithfully pursued, will lead often to most brilliant results. The ultimate result in Case XVI., in which there was a prolapsed ovary surrounded by exquisitely sensitive adhesions and indurations of four years' duration, is an excellent illustration of this fact, but was not related in the work, as the patient was still under treatment at the date of going to press. This patient had declined operation at the hands of one of the critics, and during the electrical treatment at the Pennsylvania Hospital was repeatedly examined by competent surgeons, who predicted failure. She has now been in the enjoyment of perfect health for some months, discharging fully all duties to her husband and children, even to doing the family washing. This case deserves particular mention, as it was the subject of sceptical criticism at one of our medical societies while the treatment was in progress.

Ignorance of Apostoli's views on the treatment of acute inflammatory affections is next hastily charged on the author, the particular negligence instanced being a failure to see an article in the "British Medical Journal," of May 12, 1888. If the critics will turn to page 191 of the work they will find the substance of this same article quoted in the text, with a reference foot-note beneath it.

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As to the use of the current in extra-uterine pregnancy, their fears in case of an inaccurate diagnosis are groundless. The faradic current advised may be used at the first suspicion, and, unlike a laparotomy under the circumstances, could do no possible harm in the event of a mistake. Their further complaint: "It is especially unsurgical if, after the use of electricity, it is intended to open up the abdomen and remove the fœtus. To first play with the current, then work with the knife, although Dr. Massey's suggestion, will hardly receive the intelligent approval of those not operating in the experimental line," — does not coincide at all with the views of other surgeons, notably those of Gaillard Thomas, who has recently said (Am. Syst. Gyn., Vol. II., p. 191), "Unless the imminence of rupture render fœticidal efforts hazardous and delay for this purpose unadvisable, the life of the fœtus should always be destroyed prior to fœtal viability, before laparotomy is resorted to. After fœtal death, from the very instant that it is accomplished, diminished vascularity rapidly establishes itself, and every day, every hour, renders the chances of a subsequent operation better." Again, on page 196: "In twelve cases, a little less than one-half of all the cases seen by me, exclusive of those in which the cyst had ruptured, electricity was employed as a fœticide; of these, all recovered, none died."

In conclusion, permit me to say, Mr. Editor, that while mindful of the good things said of the work in the review, for which my thanks are now extended, I cannot refrain from regretting that the intensity of partisanship has led the reviewers to adopt so unscientific an attitude towards a remedial agency of much promise. It is to be hoped that the questions that confront them while handling the abdominal knife receive a more calm and conscientious study than was bestowed on this rash attempt at literary vivisection.

G. BETTON MASSEY.

1706 WALNUT ST., PHILADELPHIA.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

FRIDAY, JUNE 7, 1889.

THE President, Dr. THEOPHILUS PARVIN, in the chair.

Dr. WM. GOODELL reported the following history of a case of extra-uterine fœtation, and exhibited the specimen: —

The patient had been married for a number of years without conceiving. Her catamenia had been regular up to the time when they ceased for nearly seven weeks and morning sickness set in. The next monthly period was free for a few hours, and then merely a show of blood which

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lasted several days. During this dribble severe intercostal pains, lasting two hours, followed a movement of the bowels. For several days there was great soreness of all the muscles. At irregular intervals these intercostal pains reappeared, and were always followed by much muscular soreness. There were few pelvic pains, nothing like cramps, and Dr. Goodell was called in on account of a continuous dribble of blood which had lasted for three weeks. During this metrothaxis membranes were twice passed, which were supposed to be fragments of an early miscarriage. Dr. Goodell found an irregular tumor to the left of the womb, closely adhering to it and pushing the fundus over to the right.

In view of the history, a diagnosis of extra-uterine fœtation was made, and the operation was promptly performed three months after the cessation of the last regular monthly period. There was no appearance of old or of fresh blood in the abdominal cavity, such as is usual in many of these cases when rupture has taken place. But of course blood escaped during the breaking up of numerous adhesions to the rectum and the broad ligament. The specimen shows the left ovary and the corresponding tube greatly enlarged by a deposit of placental tissue. Dr. Osler, who was kind enough to examine the specimen for me, states that the chorion villi are unmistakably present. No fœtus was discovered, but it may have perished and become absorbed, or it is possible that it may have escaped into the abdominal cavity through an opening made accidentally into the sac, during the process of enucleation. So vascular was the sac that a stream of blood spurted out from this tear as if it came from a large vessel. Apart from a nervous attack of vomiting, which lasted nearly twenty-four hours, the convalescence was uninterrupted.

Discussion.

Dr. J. Price. — I am satisfied that Dr. Goodell's explanation of the absence of the fœtus is correct. I could cite two or three cases and an experience of my own which supports this view. Mr. Tait's first two cases made tedious recoveries, and in both he failed to find the fœtus. Some time ago I did a section with a doubtful diagnosis. Some one standing by asked me what I expected to find. I replied, "One of twelve things." I went on and removed a large adherent tube, ruptured, with the abdomen pretty well filled with clot. I then irrigated the abdomen. After using one pitcher, the water returned perfectly clear. To make the toilet thoroughly satisfactory, I used the second pitcher of water, and, in finishing the second toilet, washed out a little boy. In this case I am satisfied that the peritonæum could have taken care of the fœtus by digestion, as probably occurred in Mr. Tait's cases.

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Dr. HOWARD A. KELLY. — I think that this case illustrates how readily we can make a satisfactory diagnosis, given symptoms being present. With a certain order of symptoms and signs we can with the utmost certainty diagnose extra-uterine pregnancy in a certain proportion of cases. In another large proportion of cases it is a matter of mere conjecture, until the abdomen is opened. I operated this week on such a problematical case, one of the two possibilities being extra-uterine pregnancy. Such proved to be the condition, although no fœtus was found. I found the sac and the placenta within the ruptured tube.

In a recent book on this subject by Strahan, he unfortunately fails to notice some experiments on the disappearance of the fœtus after its expulsion into the abdominal cavity. Leopold has experimented by introducing fœtuses into the abdominal cavity of dogs. These have been digested, until the period of the more distinct development of the bony tissues has been reached. After that period they have become sources of irritation and have been cast off by suppuration.

Dr. M. PRICE. — I do not think that a study of the cases on record will make a man perfectly satisfied that he can say when he has a case of extra-uterine pregnancy. The ablest men throughout the world have satisfactorily decided that question. They have made mistakes time and time again. They have cut for supposed extra-uterine pregnancy and found something else. They have cut for something else and found extra-uterine pregnancy. It is very difficult to decide until the abdomen is opened.

A ruptured extra-uterine pregnancy can only develop in the broad ligament. If it ruptures into the peritonæum, there is not a single case on record where, if the operation is delayed a number of days, the fœtus has not disappeared. Hundreds of cases are on record. I have myself seen eight or ten where the fœtus could not be found, where the microscope positively showed the presence of extra-uterine pregnancy. Those cases that go on to development are those in which there has been first a rupture into the broad ligament, and then development up to a certain time when the child can resist the digestive action of the peritonæum.

I would ask if this woman or any other woman with extra-uterine pregnancy could be benefited by electrical treatment. There is no question in my mind that in these cases electricity has done a vast deal of harm, and has aggravated symptoms already existing, and has imperilled the woman's life to a greater extent than if she had been left entirely to nature. The knife, as Dr. Goodell has used it, is the only treatment. Delay is not justifiable at any period, unless when the case comes into the hands of the surgeon the child has passed to that degree of develop-

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ment that warrants its being left to the period of viability. All of these cases demand operative procedure at an early period, if they come into the hands of the operator.

Dr. WILLIAM GOODELL. — I fully agree with the remarks of those gentlemen who hold to the uselessness of electricity. I think that there is only a single class of cases of extra-uterine fœtation in which electricity might be valuable, and that is in the early weeks before hæmorrhages have occurred. An examination of the specimen before us shows, to my mind, that hæmorrhages must have taken place in the tube forming layers of organized clot. In such cases I do not see how it is possible for electricity to do anything but harm. In those occasional rare specimens in which the chorion has remained intact, resembling an abortion coming away without rupture, the ovum being nothing more than a delicate, but shaggy bladder, with the fœtus inside, I can understand how electricity could do good by destroying the life of the fœtus. Then everything might readily become absorbed; but as we can never know positively beforehand whether or not hæmorrhage has occurred, my own feelings are in favor of immediate section.

While the difficulties of diagnosis are undoubtedly very great, this need not interfere with our treatment. We find a woman suffering from certain pelvic symptoms, and we discover an extra-uterine tumor of some kind. Now a painful pelvic tumor must be removed, whatever it is. The only change in the treatment would be to hasten on the operation, were the symptoms pointing in the direction of extra-uterine fœtation.

Dr. HOWARD A. KELLY read the report of a case of cholocystorrhaphy followed by cholocystotomy and evacuation of one hundred and eighty-eight gall-stones, and recovery. (See page 517.)

Dr. GEORGE E. SHOEMAKER reported a case of "Puerperal Septicæmia." Operation not indicated. Autopsy. (See page 509.)

DISCUSSION.

Dr. WILLIAM H. PARRISH. — The question of laparotomy for septic infection accompanying or following labor is one of great importance. Doubtless many errors have been made in not opening the abdomen, while against this is the fact that at the present stage of abdominal surgery we should be on our guard that we do not go to the other extreme, and open the abdomen in cases of septic infection following labor, when the operation is not indicated. It has so happened that in an acquaintance with the Philadelphia hospital, extending over fifteen years, I have seen a goodly number of autopsies in cases of septic infection after labor. I

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have seen few instances in which the autopsy showed that laparotomy would have been of any special value. Where there has been a pus accumulation without fatal general septic infection preceding it, and that pus cavity is so located that it can be opened and drained or entirely removed, the operation is a proper one. If there is reason to believe that there is an accumulation of pus in the peritoneal cavity, it will be right to open the peritoneal cavity and remove the pus, provided the woman is not in a moribund condition. There are, however, cases in which the purulent peritonitis develops very late in the history of the case. There are not a few instances in which the septic infection, as it has extended from the uterus, shows its local effects in the lymphatics, and the fatal result is probably determined before the peritonitis takes on a very active form. I am sure that I have seen this occur. In an endemic in which twenty or thirty autopsies were made, we found the peritonæum in various stages of inflammation. Cases that died early showed inflammation of the lymphatics, and the formation of pus in the lymphatics, particularly of the broad ligament and uterus, with swelling of the areolar tissue and degeneration of the peritonæum. In other cases, the condition was more advanced, with the formation of lymph and flocculi and turbid fluid in the peritonæum. In other cases, where the patient lived still longer, we found a larger quantity of purulent-looking fluid. I believe that if these cases had been operated on, the result would not have been favorably influenced. In fact, I think that in some the fatal result would have been promoted by operation. It requires more judgment, and I think probably more skill, to determine when the abdomen should be opened in these cases than to do the operation.

I have in a few instances opened the abdomen after labor, and, as I think, have thereby saved the patient. It has so happened that in all the cases in which I have opened the abdomen after labor that the pus has been in the areolar tissue of the pelvis. These cases have recovered. I have not operated on a patient after labor who has not recovered. I do not recall a single instance of pus in the tubes. There was a limited quantity of thickened fluid, but nothing like pyosalpinx. I think that this is rare, especially in endemic septic infection.

Dr. J. M. Baldy. — I agree with Dr. Parrish in regard to the difficulty of deciding which of these puerperal cases are subjects for operation and which should be let alone. At one time I thought that it was rather easy to distinguish; but as cases came one after another into my hands, I found it extremely puzzling to know what to say. If there is pus in the tube, which I found in one case, it is easy to settle the question. It is often difficult to say whether or not there is pus at all. In the

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vast majority of cases in which I have been asked to decide for or against operation, I have advised waiting, and all of these cases have recovered, showing that there was no pus. If you can make up your mind positively that there is pus or purulent fluid, there would be no question as to the advisability of operating. I should not wait because the woman was far gone, in the hopes of bringing her up. I think that the pus is at the bottom of the trouble, and that the only way of saving her is to stop its absorption at once, by removal. The great difficulty is to decide whether pus be present or not, and it requires caution, or we shall be led into many operations which will be unnecessary.

I think, in the case of Dr. Shoemaker, that the question of operation would not have come up at all. It was not a case of peritonitis, nor were there symptoms of local trouble. From the report I can see no indications for the use of the knife. I think that this was clearly a case of absorption of ptomaines, and in such a case there would never be formation of pus.

Dr. M. Price. — I have had rather an unfortunate experience with this operation. In three cases that I have had there has been persistent vomiting. For days there had been fever and quickened pulse and a well-marked chill. Upon examination there was unquestionable evidences of pelvic inflammation. In one case tubal trouble was well marked, and the uterus could be mapped out from the tubes. In this case the operation was performed on the eleventh day, after it had been determined that the woman had peritonitis. Three pints of pus poured out. The pus had burrowed up behind the kidneys on either side. The case was fatal.

The second case was one of criminal abortion, where the girl fell into Dr. Musser's hands at the last minute, and he sent her to me. Within six hours I operated and found three pints of pus. No well-marked tubal trouble could be found. All the surroundings were in a semi-gangrenous condition. The patient died.

The third case was seen a few weeks ago. The pelvis was as solid as if it had been frozen. She had a chill and the broken tea-leaf appearance of the vomit. She finally consented to an operation, and on opening her, from one to two pints of pus escaped. Nothing was done but to open the belly, break up the inflammatory adhesions, wash out the cavity, and use drainage. In these cases, I think that early operative procedure would have given the patients a chance for their lives. If I were to-night to see a case of septic peritonitis where there had been a chill, some distention of the bowel, a fixed condition of the uterus, I should not hesitate longer than to obtain my instruments.

Dr. J. Price. — Dr. Parrish has well selected his cases; he has not

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made any mistake; he has operated in suitable cases, and others he has permitted to die because any operative interference would simply have hastened death. In all the cases in which we have operated, we have been able to place our fingers on something before operating. The cases reported by my brother were all dying. It is unfortunate for surgery that we should be forced to operate on a dying patient. A large number of puerperal cases have been saved. Dr. Baldy has saved two cases. I have had a number in my own practice. Dr. Bernardy has had one, and I could cite a number of other cases. In none of the cases cited by Dr. Parrish did he put his hand on anything on which to operate, and he cannot cite a single case in which he opened the abdomen when he should not have done so.

Dr. W. H. PARRISH. — I wish to add one word in regard to operating when the conditions seem to be fatal. I did not mean to say that I would not operate on an abscess, believing such to be present, when the patient is very ill. In one instance I removed one and a half gallons of pus from a patient in a condition of extreme emaciation and almost ready to die. She is now well. I should hold off from operating in a case in which the blood-poisoning was so great that there was no possible hope for recovery. Where there is an encysted abscess, the patient will live a long time; but in endemic diseases with dense septic infection, the patients, even when first seen, are often so ill that exploratory incision would certainly not be a proper thing to do, inasmuch as it would add to the mortality following surgical operations, and deter others from operating and other patients from being operated upon. If there is reason to believe that there is a pus cavity, I should operate if the patient was almost *in extremis*. Where, on the other hand, the blood-poisoning was the main trouble, I should not open the abdomen as a matter of exploration.

Dr. JOSEPH HOFFMAN. — There is one point in connection with the case of Dr. Shoemaker to which I would call attention, and that is the use of the bichloride and the absence of odor. It seems to me that the absence of odor must have been due to the bichloride. The statement that there was no odor is perhaps a little too wide, inasmuch as disinfection was used persistently. It seems very evident that the case was one of general septicæmia from the preceding dirt, and that the peritoneal condition was only an incident to the general systemic poisoning. I have seen one case die from general peritonitis in which there was pus, but in which the symptoms appeared only on the eighth day, the patient succumbing on the tenth day.

The PRESIDENT. — How do you explain the physometra?

Dr. GEO. E. SHOEMAKER. — I did not assert that there was physo-

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metra. I only asked if the escape of air from the uterus or vagina could have been so explained. If there was gas it was probably the result of decomposition. There was no peritonitis at any time. When I say that there was no odor to the lochia, I mean no abnormal odor, except at the time mentioned, when there were indications for disinfection.

I would like to call attention to one difficulty in the diagnosis of post-puerperal pelvic abscess. Over a year ago I had a bad case of septicæmia in a woman who had been delivered by another gentleman. She developed on the left side of the uterus a decided sense of resistance, and a tumor apparently the size of the fist, and tender on pressure. The temperature was 105°–106°, and there were profuse sweats at night. I felt very solicitous as to whether or not there was pus. The enlargement proved to be a fæcal mass, which purgatives removed in a few days. No operation was performed, and to-day there is not a healthier woman in the city.

Dr. J. PRICE presented specimens, with the following remarks: —

I asked Dr. Penrose for a large fibroid with cystiform degeneration to present in connection with a large myoma. This case demonstrates a point from a pathological and from a therapeutic and electrical point of view. It was the clearest case for diagnosis that I ever saw. The woman was 46, and the tumor ten years in developing. Last year there was almost constant bleeding. There was rapid development, with faint fluctuation at points. It was one of those tumors of which Atlee gives five in his three hundred and seventy-eight ovariotomies. It was generally adherent, and the doctor tapped it to reduce its size, that he might deliver it through a smaller opening. He found between the uterine cavity and the cyst a membrane as thin as the amniotic membrane, with vessels as large as the finger. If in such a case any one had passed an instrument, he would probably have lost his patient on the table.

I have here a soft myoma, which is probably one-half the size that it was when removed. It extended high up to the diaphragm. It was of rapid development. It is a true myoma, — an œdematous myoma. The patient was 29 years of age. On the left side posteriorly I could feel bodies, independent of the tumor, which moved with the cervix. I was satisfied that it was a myoma, yet it did look like one of those ovarian tumors with solid contents, and these solid bodies posteriorly. On the right side is a small blood-cyst, perhaps the size of a hen's egg. The shrill and aneurismal noises on the right side posteriorly were very curious. On vaginal examination it was the most marked that I ever felt. When I came to operate I feared to pass the needle so deep, and ventured to shell this ovary out. The vessels were as large as the iliacs.

These two cases demonstrate to me the uselessness of electricity in

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many of these cases. It seems to me to be about as probable that we could act upon the primitive iliacs or aorta by electricity as that we could influence vessels the size of the finger in this tumor. This was an extra-peritoneal, supra-vaginal operation. The operation was quite simple. I removed the tumor well down to the wire to prevent overlapping, and stitched the stump as is done by Bantock. The last operation was done on Tuesday. That of Dr. Penrose was done a month ago.

I have here a small ovarian cyst, which some would call an intra-ligamentary cyst. I have some doubts as to the nature of intra-ligamentary cysts. I look upon them as pelvis bound by adhesions. They have been tapped, and pelvic adhesions formed. In such cases I have had to begin at the incision with the knife, and sometimes to finish with the knife. This tumor was covered by adhesions. It was on the left side, pressing upon the bowel, causing difficult and painful defecation. She had had attacks of pelvic inflammation. There is here a small blood-cyst as large as a walnut. I dreaded to tap it, fearing that it contained that sebaceous, putty-like material of dermoids which is so difficult to remove. The patient has asked me to preserve the tumor, and she has bought a jar in which to place it.

I have here a doubtful specimen. It may be a hæmato-salpinx or it may be a tubal pregnancy. It was removed by Dr. Penrose. There is no semblance of a pavilion.

Some time ago I had a case in which the placenta and clot were in the cornual extremity. When I removed it, a rose-shaped clot, as large as a good-sized rose, protruded from the pavilion extremity. Here the abdomen was filled with blood. This woman had had pain and had hæmorrhage recurring from time to time.

The history in the case of Dr. Penrose just referred to was that the woman had been married four years but had never conceived. She was at this time living as a domestic. She was examined at the dispensary and sent to my office the same evening, the suspicion being that it was a case of extra-uterine pregnancy. There was a delayed period. She had had agonizing pains, which had recurred, and she had been in bed several days. I at once sent her to the hospital. There was constant vomiting for the next four days. Aside from this there were no alarming symptoms. The operation was postponed for four or five days, until the nausea entirely subsided. As matters stand now, the woman is reacting nicely, there is no nausea, and she is doing well. It is curious how we reason about these cases.

In regard to these fibroids, we are now guided largely by the size of the tumor and its character. In myoma the removal of the appendages is,

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in my opinion, simply useless at any period; and in these large fibroids with nodules and probable extension into the uterus, and where degenerative changes have taken place in the uterine wall, I believe that it is about as useless.

In regard to extra-uterine pregnancy, I would call attention to two or three cases on record, and to the uselessness of electricity and to some points in diagnosis. Bantock recently removed a ruptured tubal pregnancy on one side and a pyosalpinx on the other. In that case it would have been impossible to make any refinements in diagnosis. Dr. Eddis exhibited to the British Gynæcological Society specimens of recent operations. One was an ovarian cyst the size of a hen's egg, and above this the right Fallopian tube was enlarged about the size of a small walnut by an extra-uterine pregnancy. This had ruptured at the other end. This case was a typical one, and illustrates very beautifully how common it is to find a mixed condition of affairs in the pelvis. Such has always been my experience. When we open the abdomen we do not know what we are going to find. We may not have the slightest suspicion of extra-uterine pregnancy, and yet in many cases, as has been demonstrated in this town, find one.

It is common to find small blood-cysts, and these small tumors contain peculiar little bodies. These small blood-cysts often look like extra-uterine cases, but many of them are not.

Discussion.

Dr. William Goodell. — In regard to the treatment of the pedicle in simple hysterectomy, I have had within the last two years at least a half-dozen cases, and in some the tumor was very large. One weighed over thirty pounds, another weighed forty-six pounds, and the abdominal incision in this case was the longest I ever made. The pedicle was a little larger than my wrist. In these cases I have ceased to use the extra-peritoneal method, but have dropped all the pedicles, and all the women have recovered. I transfix the pedicle with a double ligature, and tie on either side provisionally. Then the tumor is cut away and the pedicle is scooped out so as to be funnel-shaped. Each ligature is now untied, its free ends wrapped around the handles of two forceps, as a purchase, and retied as tightly as possible. I then close up the cup-shaped cavity by sewing the peritoneal edges together. In the last case I did this with the continuous silk suture. In one case I used catgut, but in all the rest, silk. All the cases have recovered as promptly as after a simple ovariotomy. Unless the pedicle were of extraordinary size, I

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would in future resort to this method, for convalescence is far more prompt than with the extra-peritoneal method. In these cases I have not used the drainage-tube unless there were adhesions. In the case of very large tumor, the adhesions were so formidable that the woman came nigh dying on the table. In this case I used the drainage-tube, but in most of them I did not.

Dr. JOSEPH HOFFMAN. — I thought that Dr. Price would have referred to a case of my own in which there was extra-uterine pregnancy and pyosalpinx. The diagnosis could have been made had not the woman's condition been so critical that it was not necessary to go into any refinements.

In the case of fibroid tumor shown, the belly, previous to operation, was certainly as large as at a seven months' pregnancy. In reference to the blocking up of the intestines, I removed three weeks ago a tumor two-thirds the size of the one shown. The woman gave a history of pain in the side ever since menstruation, and pain and trouble in defecation so great that they could only be explained by adhesions. The tumor was not large enough to make sufficient pressure to cause such trouble by its weight alone. She had suffered so long that I expected to find a dermoid cyst. The question to my mind was whether this had been developing for a long while, was still growing, or had grown so far and stopped.

I do not think that if Dr. Price had the experience that I have had in the last few days, he would give his specimens to patients. An attempt to blackmail me was made by a woman to whom I gave a specimen. She took it to another doctor, who encouraged the idea that nothing had been wrong, and that the operation was unjustifiable. This was one of the most severe cases that I ever attempted to deal with. The adhesions were so great that I had to use a drainage-tube for two weeks.

Dr. J. PRICE. — In regard to the treatment of the pedicle. At a discussion before the American Gynæcological Society at New York, Dr. Bantock and Professor Martin had the opportunity to present the relative merits of the two methods of treatment, and I think that Dr. Bantock demonstrated to the satisfaction of the society that the extra-peritoneal method was the better one. We are inclined in all work to follow successful operators. I am glad to hear Dr. Goodell state that he has been so successful with the intra-peritoneal method — much more so than Professor Martin and others; Professor Martin's mortality from hysterectomy is still high. Dr. Bantock's is down to 12%–14%. Mr. Tait has had a run of thirty-two supra-vaginal amputations without a death. Mr. Keith lost three in thirty-eight or forty. The three most successful operators in the world are Bantock, Keith, and Tait. They are all three working with a mortality less than 14%. This is about as low as Meredith Thornton in

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ovariotomy. Many cases such as Dr. Goodell mentioned are quite tempting. In my case the pedicle was larger than the wrist. I screwed up the clamp five times, and each time I thought that it was quite tight. I have never lost a simple hysterectomy. I have lost two with cancer. In both the disease had invaded the bowel, and I do not see that it would have been any advantage to them to have gotten well.

In regard to drainage: that is still a disputed point. After dropping the pedicle, Professor Martin pushes a rubber tube up through the vaginal vault. While he does not approve of drainage from above, he does from below. Mr. Bantock drains largely where there are adhesions. For myself nothing would at present shake me in my views in regard to drainage. In my first series of one hundred cases, I drained in 46%; in the next, I drained in over 50%.

Dr. J. B. DEAVER exhibited a "Large Multilocular Ovarian Cyst."

The patient was from Maryland. There was considerable ascetic fluid. There was a large tumor on the left side containing colloid material. The woman had suffered considerable pain. There were also papillomatous contents, and malignancy was suspected. A smaller tumor was removed from the right side.

Dr. M. PRICE exhibited "A Substitute for Senn's Plates."

This is simply a transverse section of the femur of beef, which has been decalcified. It is used in the same way as Senn's plates. The openings in the transverse section are across instead of on the plane of the surface of the bone, and absorption will take place more rapidly. The advantage over the Abbe ring is that this holds its form, while the catgut ring is liable to twist and give some trouble in its application. These plates are being used by Dr. Deaver and my brother upon some dogs, and later they will make a report of their observations.

Dr. H. M. WEEKS exhibited "An Antiseptic Ligature Box."

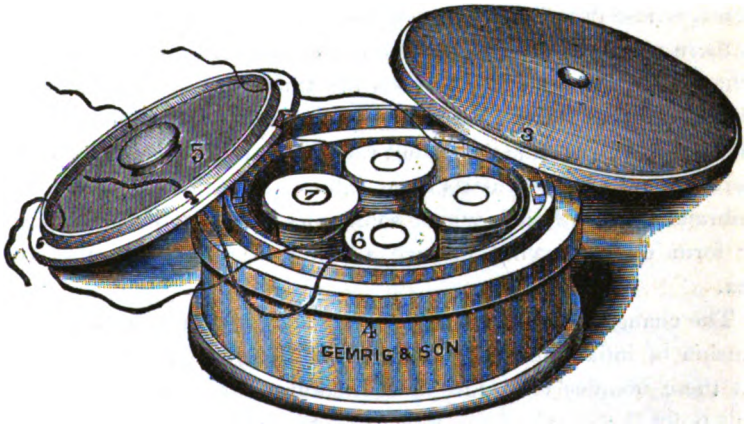
This box is presented to the profession for preserving and carrying ligatures that have been prepared and rendered aseptic or antiseptic, enabling the operator to cut his ligatures and suture, at the time of operating, without danger of soiling or infecting the portion not required for immediate use. It is made of a fine quality of earthenware, thus securing strength and durability; at the same time it is light, compact, ornamental; and last, but not least, it can be furnished at a price that will enable every one practising surgery to provide himself with one or more. The box can be had in any color desired, or with any decoration the consumer may wish.

The accompanying cut represents the different parts as follows: The box is round, four inches in diameter and two inches high, with an

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outside cover, No. 3, that is held in position by a neat clamp, No. 1, which, when adjusted, is prevented from slipping by a slot on either side of the band or flange at the top of the box, the screw holding the cover tightly down upon the rubber washer, No. 3, which encircles the top, and renders the box absolutely air and fluid tight, so that the ligatures can be carried constantly in any solution desired without danger of leakage.

The inner cover, No. 4, is a flat disk with a slot cut in the edge to allow it to be placed in position, and held by two small catches placed on opposite sides of the box; the small knob in the centre serves to turn and place and remove the cover. There are four holes perforating this cover for the four sizes of silk generally used, and half an inch from the edge of the cover there is a raised band, also perforated, for the silk to pass, thus



making it impossible for the end of the ligature to drop back into the box when cut. This cover rests upon a ledge, and is left in place except when necessary to fill the reels or spools with silk, or the box with solution.

The reels or spools, No. 6, four in number, stand upright, and are held in position by separate spindles, No. 7. The whole box is highly glazed; there is no metal nor anything that can be acted upon by any solutions, and the material from which it is made can be subjected to any amount of heat, either dry or by boiling. It can be taken apart in a very few seconds, and every part thoroughly cleansed.

Should any of the parts break, they can be replaced, as they are interchangeable.

They may be obtained from J. H. Gemrig & Son, 109 South Eighth street, Philadelphia.

J. M. BALDY,
Secretary.

328 South Seventeenth Street.

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ON THE DIAGNOSIS OF THE EARLY STAGE OF SALPINGITIS.

BY PROFESSOR SCHAUTA, OF PRAGUE.

(Translated from the "Archiv für Gynäkol, xxxiii., 1, p. 27, 1888.")

BESIDES the various forms of chronic salpingitis known as hydro and pyo salpinx, as diffuse hypertrophic salpingitis, there is a well-characterized variety of chronic salpingitis, which may be described as an early form when compared with those final forms.

This variety, "*salpingitis isthmica nodosa*," was recently first more accurately investigated by Chiari; since then he has studied it in eighteen patients, whose described cases are also added. In this variety of salpingitis there may be found at one time in the peripheral sections of the tubes no changes, while their uterine ends are thickened to the size of a pea, or that of a bean. Hence the condition in question is not that of a tumor, in a narrow sense of the word, but rather that of a local hyperplasia and hypertrophy of the muscularis tubæ, into which the folds of the mucous membrane are continued, which sometimes forms constrictions, and thus may form cysts, varying in size from a hemp-seed to that of half a pea.

The changes arise, as every other salpingitis, most frequently by the extension of inflammatory processes of the uterine mucous membrane. That these nodules form just at the isthmus has its reason therein, that at this point the canal of the tube is narrowest, and hence the inflamed and swollen protrusion of the tubal mucous membrane outwards with consequent hyperplasia of the muscularis.

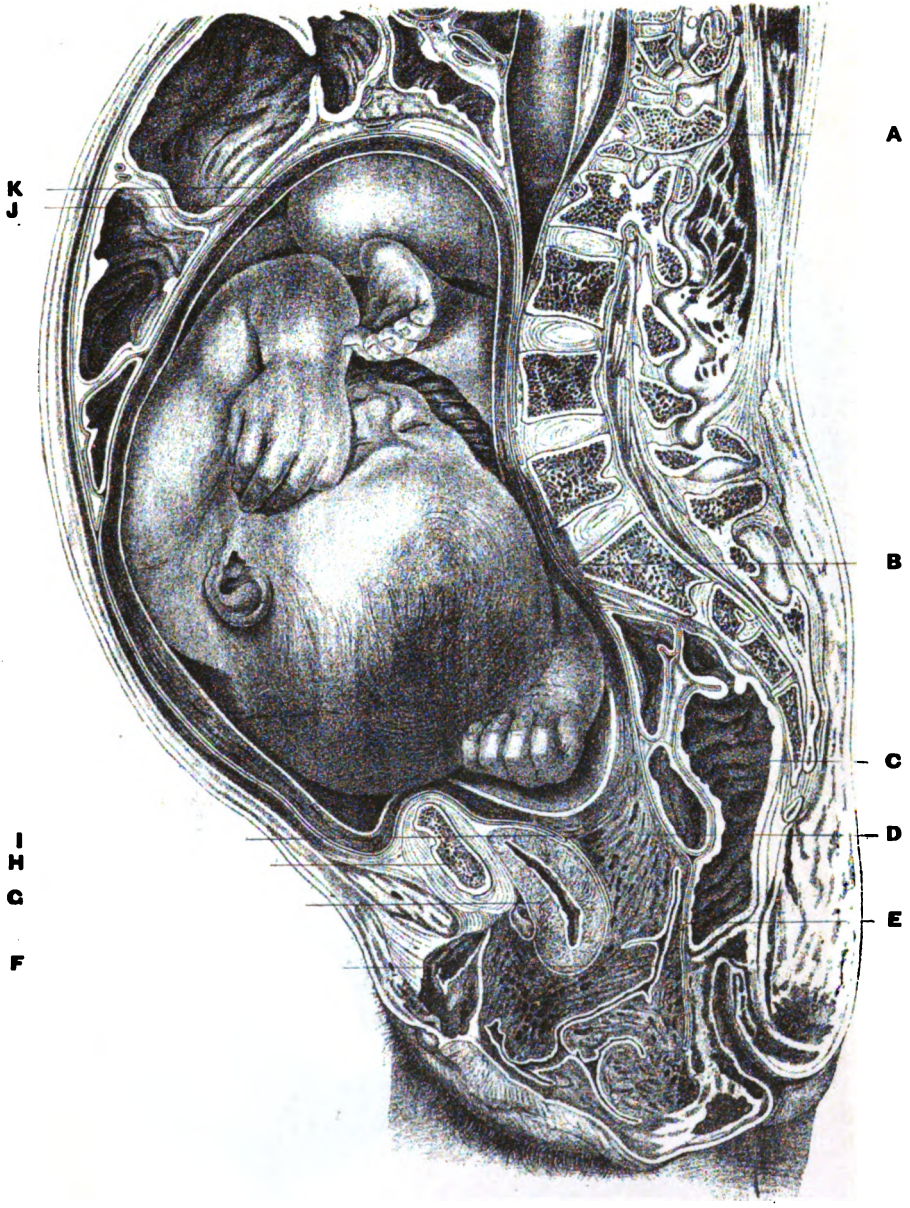
The clinical symptoms of *salpingitis muscularis nodosa* are those of salpingitis in general. Especially are the so characteristic colicky pains rarely absent, they being produced by contractions of the tubal musculature.

The therapy will in lighter cases necessarily be symptomatic, and an operative therapy is indicated only in graver ones, where the patient's enjoyment of life and capability of working is seriously interfered with.

In Schauta's eighteen cases, both tubes were removed but five times, thereby causing the colicky pains, which had often been fearful, to entirely cease.

P. P.

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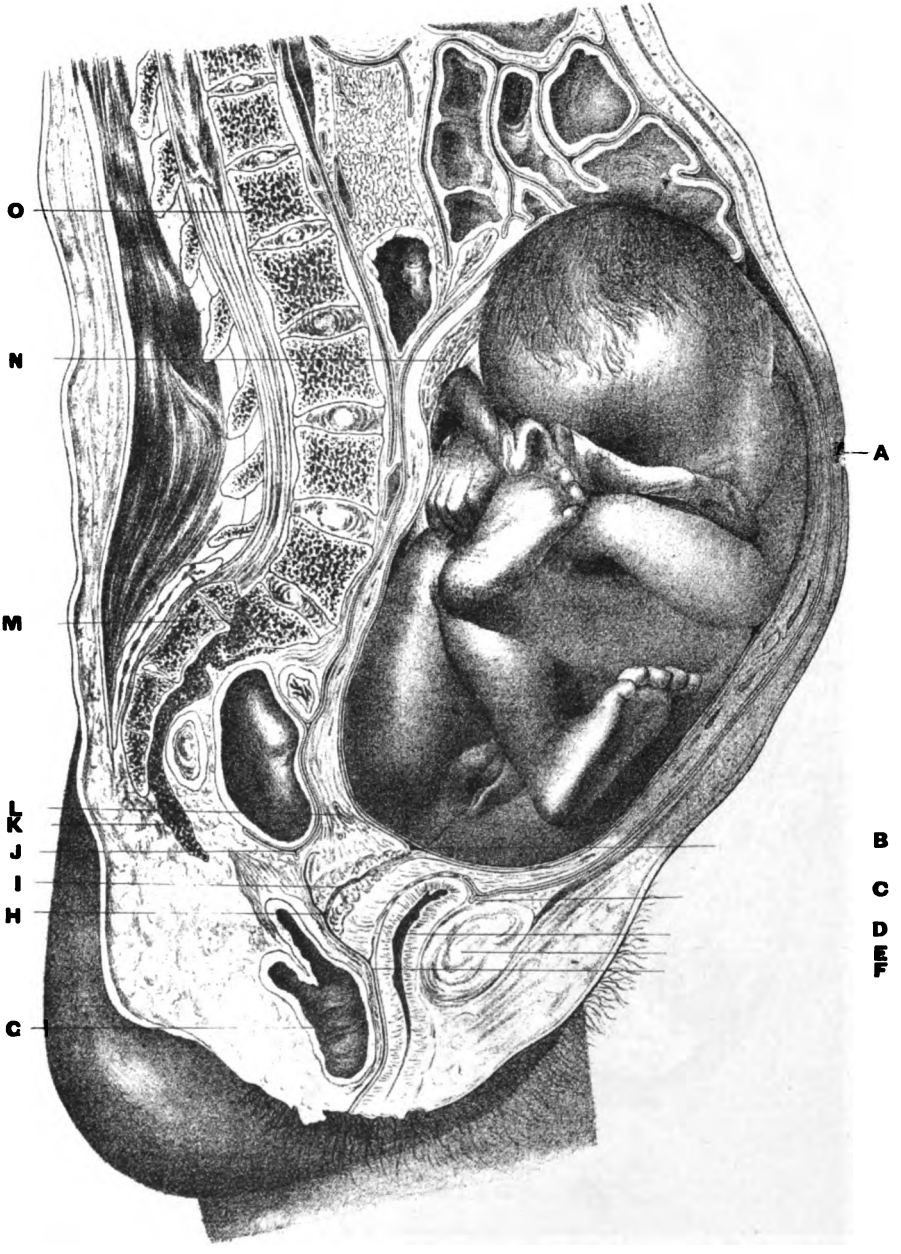


BEFORE LABOR.

A, First lumbar vertebra. **B,** Promontory of sacrum. **C,** Rectum. **D,** Cervix. **E,** Pouch of Douglas. **F,** Vagina. **G,** Bladder. **H,** Symphysis pubis. **I,** Utero-vesical retroflexion of peritonæum. **J K,** Venous sinuses. (See page 579.)

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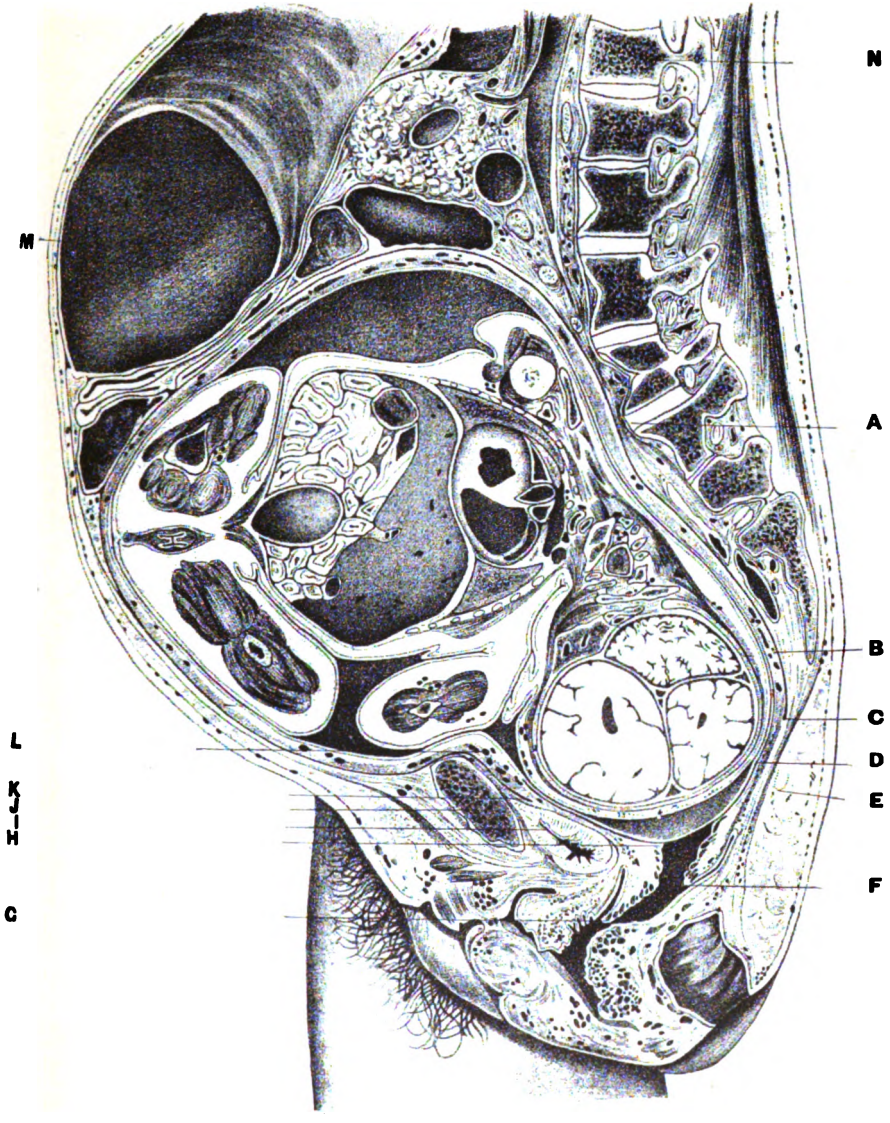
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A, Umbilicus. **B**, Os internum. **C**, Utero-vesical reflection of peritonæum. **D**, Bladder. **E**, Symphysis pubis. **F**, Vagina. **G**, Rectum. **H**, Os externum. **I**, Cervical canal. **J**, Pouch of Douglas. **K**, Blood extravasation. **L**, Coronary vein. **M**, Fractured first sacral vertebra. **N**, Placenta. **O**, First lumbar vertebra.

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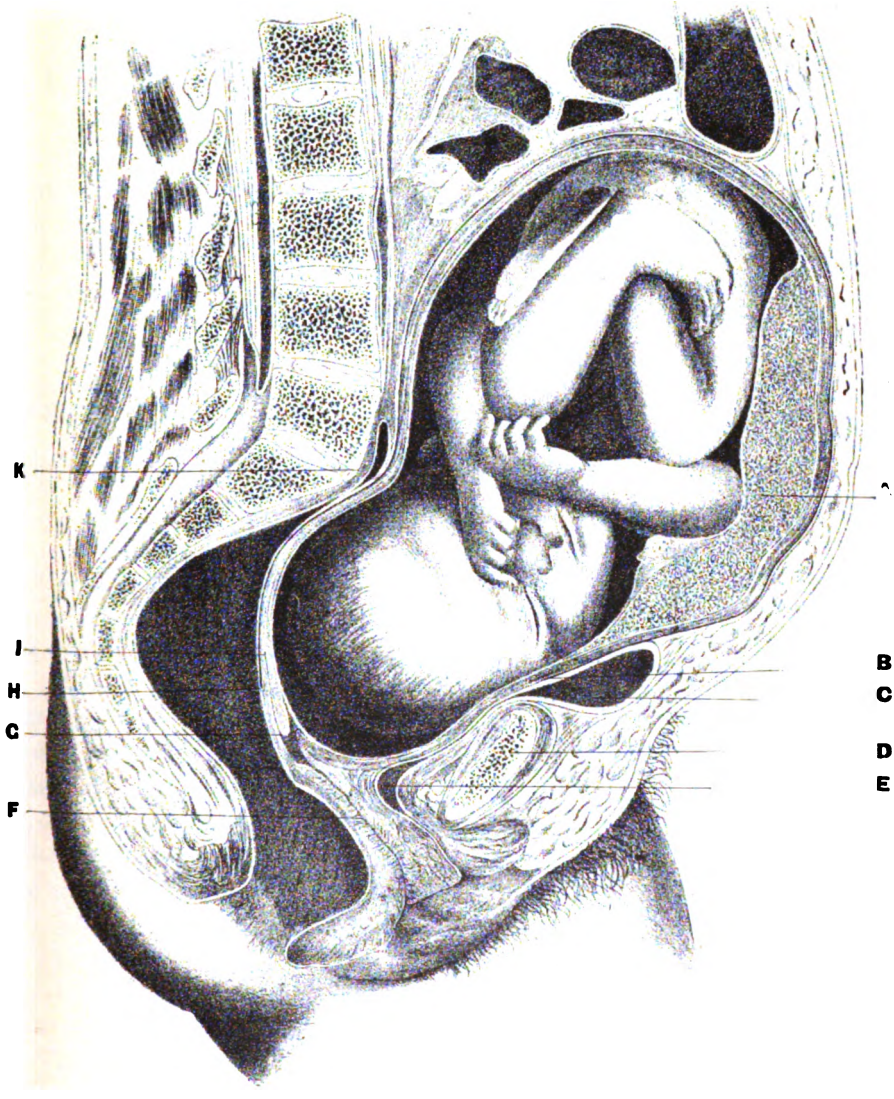


FIRST STAGE.

A, Promontory of sacrum. **B L,** Contraction-ring. **C,** Peritonæum behind uterus. **D H,** Os internum. **E,** Level of tip of coccyx. **F G,** Os externum. **I,** Bladder. **J,** Symphysis pubis. **K,** Utero-vesical reflection of peritonæum. **M,** Stomach. **N,** First lumbar vertebra.

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FIRST STAGE.

A, Placenta. **B**, Utero-vesical reflection of peritonæum. **C E**, Bladder. **D**, Symphysis pubis. **F**, Vagina. **C**, Os externum. **H**, Pouch of Douglas. **I**, Posterior fornix. **K**, Promontory of sacrum.

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ANNALS

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ORIGINAL COMMUNICATIONS.

REPORT OF A CASE OF TETANUS FOLLOWING OVARIOTOMY, WITH REMARKS.[1]

BY DR. JOSEPH TABER JOHNSON, OF WASHINGTON, D.C.

THE case which forms the basis of this short paper is so rare a sequela of ovariotomy that its brief report and a few remarks concerning the recent theories of the infectious nature of tetanus are perhaps of sufficient importance to occupy a few moments of your valuable time.

While the title would indicate that tetanus had followed in consequence of the usual operation for the removal of an ovarian cyst, the history of the case will show that a solid sarcomatous growth of the ovary was extirpated. Its removal required considerable laceration of the tissues in order to enucleate it from its closely attached environment, and it is quite possible that some slight injury done to nervous filaments may have had something to do with the development of subsequent symptoms.

The history of the case is as follows: —

I was first called to see Mrs. M. on the 24th of last September. I found her suffering from ovarian and pelvic pains, which she said had been tormenting her at intervals for more than a year. She had been North during the summer for the purpose of recuperating her health, but had been so ill that she had been compelled to remain at least three months in bed. She had been treated for ovaritis and pelvic cellulitis.

As the hotel where she was stopping was a noisy place and the

[1] Read at the meeting of the Am. Med. Association at Newport, 1889.

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necessary attention for my patient difficult, if not impossible, to obtain, she was, at the request of her friends, transferred to my private hospital.

Her family physician saw her with me in consultation, and suggested a further use of such remedies as purging, blistering, douching with hot water, iodine and electricity, on the theory that "she had an old-fashioned attack of pelvic cellulitis." A mass the size of a child's head could be distinctly made out, and it was expected that this treatment would either cause its absorption or soften it down so that it could be opened and drained through the roof of the vagina, as in cases of certain forms of pelvic abscess.

After the expiration of two weeks of faithful poulticing, etc., and there being no perceptible benefit, the patient cheerfully yielded to my suggestion that the abdomen be opened and the offending mass removed, if possible.

Abdominal section was made early in November, in the presence of Drs. Lincoln, Cuthbert, and Luce. The left ovary was found to be as large as a good-sized cocoanut, and closely adherent upon three sides.

The attachments were easily broken down, but its enucleation caused so much oozing from the lacerated tissues that prolonged irrigation with filtered hot water and a glass drainage-tube was required to arrest it.

The lady, although over 60 years of age, rallied well from the operation and made an unusually rapid convalescence for the first twelve days. The wound healed completely by the first intention, not a drop of pus coming from any of the suture tracks.

She had no pain, took no medicine, had no nausea following the use of the anæsthetic; passed her water without resort to the catheter; had a good appetite and digestion, and was cheerful, bright, and fully expected to get well. With this favorable assemblage of symptoms we joined her in this belief.

On the morning of the twelfth day she was lifted upon a sofa, where she rested agreeably for several hours.

In the evening, as she was put back in bed, she complained of slight stiffness in the muscles of her neck and face. It was feared that she had taken cold, and she was plentifully supplied with hot bottles, anodyne liniments, and the like. Dr. Lincoln saw her with me in the morning of the next day, and still thought her symptoms came from the effects of cold. By night, however, there was no longer room for doubt that she had tetanus. Her bad symptoms increased rapidly. She had numerous muscular spasms, frequently amounting to well-marked opisthotonos. Her mind remained perfectly clear. She was nourished by the rectum, her jaws being too tightly locked to permit of the introduction of food in

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the usual way. Efforts to swallow fluids produced such spasmodic action of the throat muscles as to nearly strangle her. During the convulsive action of the muscles of her neck and back her pulse became notably weaker.

Without detaining you further with a description of her symptoms, I will simply add that, at four o'clock on the morning of the third day after the tetanus appeared, and on the fifteenth day after the operation, my patient died. With each spasmodic action her heart would beat more feebly, and I suppose the actual cause of her death was heart failure.

At times we thought her better, as her jaws would drop widely apart when she was sleeping. They would come together with a snap as soon as she would waken, and could not be pried apart; no treatment adopted did any good. She got some comfort, however, from a mixture containing bromide, chloral, and morphia, suggested by Dr. Lincoln.

No other patients in my hospital were at all affected by this disease, and there has been no sign of it since. I have had nearly a hundred surgical operations within its walls, many of them being abdominal sections, and this is the only case of tetanus; and I am happy to add, the only death which has occurred since it was opened, eighteen months ago. No other case of tetanus has been noted in any hospital or dispensary with which I am connected, or in private practice, or within my knowledge anywhere throughout the city for several years.

Referring to the late theories in regard to the infectious nature of tetanus, especially its transmissibility from horses to the human family, as well as from man to man, I would remark that it seems quite difficult to trace any contagion in this case. No one connected with the operation had seen a case for years, and, upon inquiry, I found that no tetanus existed at the livery-stable where my horses were kept, and, as I rarely drive them, my hands could not have been infected. I have since learned that the lawns in front of my neighbors' houses had been covered with manure of some kind, perhaps horse-manure, about the time of the operation; that in front of my hospital was sprinkled with bone-dust. The case of tetanus following ovariotomy was traced by an operator to a case as remote as this, and hence my reference to it.

The recent literature upon this subject is rich in illustrations of the communicability of tetanus. In all cases, however, where the disease was produced by inoculation of the poison from the wound or blood of man or beast who died into the flesh or blood of healthy animals, they contracted the disease immediately, and died, for the most part, within three days, while my patient went on beautifully for twelve days before she exhibited the slightest sign that anything was wrong.

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As is well known, tetanus follows more frequently from injuries to the tendons of the hands and feet than to any other part of the body. This is seen to be especially true in the reports of the surgical history of the late war. It is quite possible, however, for it to follow any injury or any surgical operation, but it rarely occurs to us to suspect its proximity or fear its complicating dangers in gynæcological work.[1]

The case I have reported, and *two* referred to by Goodell in his article in the annual of the "Universal Medical Sciences for 1888;" *one* by Dr. Homans, of Boston, in his paper before the International Medical Congress; *four* by Sir Spencer Wells; *four* by Dr. Kimball, of Lowell, occurring while he was using the clamp on the pedicle; *one* by Dr. Peaslee, for the same reason — he never used the clamp any more, thinking it the cause of the tetanus; *one* by Richelot, of Paris; and *sixteen* by Professor Parvin (report read in a paper before the American Gynæcological Society in 1878, and published in Vol. II. of its Transactions), constitute the list, so far as I am familiar with it, of tetanus following ovariotomy; but even this would hardly lead us to suspect the lurking danger of this disease once in a thousand cases. I suppose Mr. Tait has now performed at least twenty-five hundred abdominal sections, and while he refers to tetanus as likely to exert a slight influence in the future unavoidable causes of ovariotomy mortality, I do not remember that he reports a single case in his own practice.

The case reported by Richelot was peculiar in its mode of exposure, so far as any contagion could be traced. It is contended that the only possible contamination of the atmosphere with tetanus germs was produced by the sprinkling of horse-manure upon the grass and flower-beds in the court-yard of the hospital where the patient was operated on for the ablation of her tubes and ovaries.

The laparotomy-room had been thoroughly disinfected for the operation by the washing of its floors and walls, and fumigated with burning sulphur.

Recently Verneuil, of Paris, has announced his belief that tetanus in man is derived from contact in some way with the lower animals; especially is he a believer in what is now spoken of as the "equine theory." He has published numerous evidences in illustration of his theory, that tetanus is communicated to men with wounds or open sores whose occupation keeps them much in stables or about horses. Verneuil's statements have been verified by a number of writers and experimenters, and the infectious nature of the disease is now emphatically announced by those who have recently studied the subject.

[1] Book on Ovarian Tumors, p. 114. Olshausen reports twenty cases. Stilling lost seven patients out of twenty-nine from this complication.

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In one case, where a child had tetanic convulsions on the ground, some of the dirt upon which it had lain was applied to a sore upon a dog. It soon contracted tetanus, and died. Tetanus from infected dirt will constitute the subject and title of a paper soon to appear from an investigator in Michigan.

The practical point of this paper, after simply placing my case upon record, is to draw attention to the recent statements in regard to the infectious nature of this terrible disease.

Especially should those who operate much on the abdomen be on their guard against all the newly described sources of infection, particularly from horses.

Shakespeare, of Philadelphia, and others have been led by their pathological and histological investigations to believe that the tetanus bacillus is the same in animals as in men, and that it may be communicated by dirt and manure as well as from the wound discharges and secretions from animals, especially the horse, to mankind; and as mankind naturally embraces womankind, hence this warning note to ovariotomists.

THE COMPARATIVE MERITS OF ABDOMINAL SECTION AND VAGINAL INCISION IN THE TREATMENT OF EXTRA-PERITONEAL HEMATOCELE, WITH REPORT OF A SUCCESSFUL CASE BY SECTION.

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THE following case was the occasion of these investigations. As its clinical features, surgical details, and pathology are referred to in the argument and conclusions of this paper, it has been deemed advisable to reproduce the case in full.

Mrs. N. L., aged 36, married three years to her second husband; no children, but four or five abortions of from six weeks to four months; menstruation painless, at intervals of three or four weeks; vaginal discharge scant; applied at my clinic on April 4, with the following history:—

Three weeks ago, during a menstrual period, she did a washing and had her feet thoroughly wet and chilled. Her period was checked, and on the next day she began to have sharp, steady pain in the abdomen and back; could not walk or stand long, could not sleep, and lost her appetite. Micturition became painful and difficult, and defecation caused much suf-

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fering. The pain was not sufficient to continually confine her to bed, but she was unfit and unable to do work, and had been compelled to rest during the greater part of these three weeks. About four days after the cessation of the menses she began to flow again, and has continued so every few days. She had suffered from inflammation of the bowels eight years ago, and had spells of "womb trouble" since, whenever she overdid. Never had any other sickness. Never noticed any abdominal enlargement, except that she bloated quite often.

She had a sallow complexion, was somewhat emaciated, with a facial expression of one in great pain. The entire hypogastric region was found exceedingly sensitive to the slightest touch or gentle percussion. The percussion sound was dull over the left iliac region. The cervix uteri was near the symphysis, a hard tender mass filled the posterior vault, of which the mucous lining felt doughy. The local peritonitis was treated by rest, opiates, hot vaginal douche, and poultice. The temperature, which was 101° F. on admission to the hospital, soon became normal, and her condition was so much improved that she left at the end of two weeks. There was, however, still a large mass filling up the pelvis and extending above the symphysis with ill-defined outlines. She left with the understanding that she could be readmitted at any time her condition should grow worse.

On her return to the hospital, May 7 (nineteen days later), it was found that the mass in the posterior cul-de-sac had increased considerably in size, gave a decided sense of fluctuation, and so pressed against the sacrum as to quite occlude the rectum; only gases and liquid contents could pass; an enema could not be retained. The cervix was low in the vagina, immovably fixed behind the symphysis; the fundus uteri could not be felt. On the abdomen the contour of a tumor was visible, occupying the left hypogastric region reaching just beyond the umbilicus. Palpation showed a well-defined, rounded, immovable tumor with distinct fluctuation, not tender to pressure. Bimanual examination proved the abdominal and pelvic tumor to be one fluctuating mass, with distinct, rounded outline, extending slightly beyond the umbilicus above, and, with the bulging of the posterior vaginal vault, completing the ovoid below. The patient had occasional sharp shooting-pains in the left side; there was no fever; she could not retain any food, nor could her bowels be moved; the urine was normal, and now passed without difficulty.

As the patient could give no history of a previously existing tumor; as a sharp, pelvic peritonitis had just been encountered, and the mass had increased in bulk and the fluctuation had developed, the diagnosis of pelvic abscess had its strong probability, though the absence of fever was a

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negative element. With the view of opening the abscess through the vagina, or clearing up of the diagnosis if it proved to be no abscess, the patient was etherized at the clinic on May 9, and four attempts at aspiration were made under antiseptic precautions, without relieving any pus; only once about ʒ i of bloody serum was withdrawn. She recovered from the ether and operation without any bad symptom, but continued vomiting and in distress. On May 11 Dr. F. J. Weed kindly examined her with me, and inclined to the opinion that it was an ovarian cystoma, and sanctioned the proposed abdominal section, under all circumstances, as her only chance of relief.

Accordingly, on May 14, at 9.30 A.M., in the presence of Drs. F. J. Weed, F. E. Bunts, F. J. Havlicek, Anna K. Scott, and ten members of the senior class, assisted by Drs. A. F. Spurney and Lilian G. Towsley, the operation was performed. The patient was etherized, and the abdomen thoroughly cleansed with soap, bichloride, and ether. The instruments were scalded with boiled hot water, no antiseptics being used on them.

The incision in the linea alba was ultimately enlarged so that it extended from the umbilicus to the symphysis. At the latter point, the bladder, which was displaced to the right and elevated, bulged into the wound, and barely escaped injury. The hand introduced into the abdomen found a rounded, fluctuating tumor, movable from side to side, attached above quite firmly to loops of intestine, free at the sides above the pelvic brim, and again attached to the sides of the pelvic cavity, higher on the left than on the right. The uterus could not be felt by the fingers (with difficulty introduced between the tumor and the symphysis), though they reached the pubic arch. The anterior wall of the tumor was covered by serous membrane above, while in its lower half the covering seemed to consist of longitudinal muscular fibres. The whole gave the impression, after failing to find the uterus, as if it were a fibro-cyst. Under this impression, to facilitate the contemplated separation of the intestinal adhesions and the subsequent delivery of the uterine tumor, the parietal incision had been enlarged. The fluctuation was so marked that an aspirator needle was introduced to draw off the fluid, but none would flow. While considering the advisability of using a Tait trocar, a few small black clots escaped by the puncture made by the needle. The puncture was, therefore, enlarged, and pressure made on the tumor, when quite a quantity of the same material escaped. Additional pressure from the vaginal cul-de-sac was made by Dr. Weed, and the opening enlarged to admit four fingers, when a number of transverse partitions were broken up, and by degrees the entire contents of the sac

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evacuated, and its cavity irrigated with hot boiled water. The abdominal cavity was then similarly flooded. At the bottom and through the anterior wall of the sac the small uterus could be felt. There was but a thin partition between the fingers in the vagina and those in the sac. The advisability of drainage through the vagina was duly considered, and abandoned as unnecessary and not conducive to a thorough antisepsis. A glass drainage-tube was introduced to the bottom of the sac and another placed in the abdominal cavity. In suturing the walls of the sac to the parietal incision it was found impossible to safely put a suture through the softened, short fringe (probably portion of left broad ligament) of the sac wall, so that the left cornu of the uterus was sutured to the abdominal wall to fill the gap. Above, the adherent intestines helped to roof in the sac. The abdomen was closed with silk all the way, and superficial sutures. The patient was under ether about one and a half hours, and bore it poorly towards the end, so that a number of subcutaneous injections of brandy were made. The amount of clots removed was estimated at fully two pounds. The patient rallied after the operation, and at the end of twenty-four hours her pulse was 98, temperature 100°. The bloody serum in the tubes was at first drawn off every half-hour by means of a glass male syringe, with rubber tubing attached to the nozzle. When the secretion became less profuse it was sucked out once in two or three hours, and after a few days the suction process became unnecessary. To prevent the stagnation of any fluid in the tubes, wicks made of absorbent cotton were introduced to the bottom (after cleaning with syringe), and these were changed whenever damp. Thus the tubes were kept continually empty, almost dry.

May 16. Pulse 84, temperature 99.8. Had vomited but once on the P.M. of the first day, and had since retained beef-tea and water as much as allowed. Gases passed freely per rectum; abdomen remained flat, in fact, somewhat retracted. She felt comfortable, requiring no anodynes, and slept for an hour or two at intervals. The tube in the abdomen had broken off on a level with the parietes, but the remaining piece was fortunately removed without difficulty; a smaller glass tube was introduced. For fear of a similar accident, the tube in the sac was removed and replaced by a rubber one. The second tube was found badly cracked, ready to succumb to abdominal pressure at any time.

May 17. Pulse 80, temperature 99.5°. Removed smaller glass tube. Bowels moved freely (five times) without pain on ℥ ii of magnes. sulph.

May 19. Pulse 106, temperature 100.5° in the A.M., 101° P.M.; quite an offensive odor perceptible on withdrawing cotton wick from

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tube. Wash out sac with sol. merc. bichl. (1 : 5,000) every six hours, give quin. sulph. 8 grs. and magnes. sulph. ʒ ii.

May 20. Pulse 86, temperature 99°. Odor barely perceptible on withdrawing the wick; continued irrigation twice daily.

May 22. (This constitutes the subsequent history after the report had been read.) Pulse 82, temperature 99.2°. Remove balance of suture, some having been removed yesterday. Union perfect. The patient continued without a bad symptom; was allowed to get off the bed to use the vessel on June 7; allowed to walk about June 12; and discharged, entirely well, June 22.

July 6. Vaginal examination of the patient at my office showed the fundus uteri adherent to the abdominal wall at lower angle of cicatrix; the cervix pointing backward towards sacrum; a puckered condition of the left posterior fornix indicating the remnants of former bulging sac.

It has been clinically well established that small, extra-peritoneal hematoceles, and even some very large ones, will become absorbed in time and require no surgical interference. I would, therefore, limit the scope of this study to such cases only as require urgent relief, either because absorption does not take place after due expectancy, or because symptoms of suppuration have rendered further delay dangerous, or because, as in the case reported, exhaustion from inability to retain food threatens the life of the patient. While my case might be included in the first class, absorption not having begun nine weeks after the onset of the disease, nevertheless it was the threatened exhaustion, the inability to retain food by stomach or rectum, which rendered surgical relief a necessity.

If the diagnosis had been correctly made, I should have followed the well-beaten path pointed out by the majority of recognized authorities, and should have operated by incision in the vagina. The rapid recovery of my patient, the physical ease and mental comfort with which the after-treatment was managed, have induced me to compare the published experience and results achieved by those prominent operators of the present day whose publications were accessible.

The various text-books were first consulted. Thomas (ed. 1880) does not mention abdominal section, as it was not as yet a popular operation. Emmet (ed. 1884) seems to ignore abdominal section as a method of relieving extra-peritoneal hematocele. Byford (ed. 1887), even at this late day, has overlooked the fact that such a method existed. Parvin, in his "Winkel's Diseases of Women," p. 617, says: "Operative interference is admissible only when rupture of the tumor seems inevitable, and then a free incision must be made at the point nearest the threatened perforation, antiseptic precautions being strictly observed. Subsequent

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evacuation will be secured by regular irrigation of the sac, or by drainage through the vagina or abdominal walls." The ominous silence concerning the details of this "drainage through the abdominal walls" leaves one at a loss to know whether the author means operation by abdominal section or merely incision of an extra-peritoneal abscess; probably the latter. In the "Am. Syst. of Gyn." Van de Warker gives one cold comfort when he says, p. 769, Vol. I., "Opening by the abdomen is not justifiable." He says this in connection with intra-peritoneal hematocele, but allows the inference that he means the extra-peritoneal as well; for of the latter he says, "The treatment of hematoma is based upon the same general plan." Beckwith, the author of the article on hematocele in the "Reference Hand-Book of the Med. Sciences," says: "When the swelling is inaccessible by the vagina and rises high up into the abdomen, an incision should be made in the median line in the hypogastric region and a drainage-tube inserted, to be followed by frequent washing out of the cyst." While direct allusion is here made to abdominal section, it is indicated, according to this authority, in such cases only where the vaginal incision is impossible. This admits of the conclusion that the writer is decidedly in favor of vaginal incision where that is possible.

Having exhausted American text and reference books without finding ground to stand on, I ventured to consult "The Manual of Gynecology," by Hart and Barbour (Wood's ed., January, 1883), and there found at least a cue to further research. I quote from this work, p. 183, Vol. I.: "Recently Mr. Lawson Tait has recommended that some pelvic abscesses be opened by abdominal section, as we often get very tedious cases when they perforate into the bowel. The following was the treatment in one of six cases in which he performed it." "I determined to open it from above. . . . I found a large cavity, containing about two pints of fetid pus with decomposing blood-clots. This I carefully cleansed out, and after having *united the edges of the opening into the cyst carefully to the abdominal wound* [Italics, mine], I fixed in one of Koeberle's drainage-tubes five inches long. . . . The patient went home cured on the thirtieth day." "Tait's cases were chiefly suppurating hematoceles. (Tr. of Lond. Med. Chir. Soc., Vol. 62.)"

The journals of the past ten years or more record isolated cases that have recovered by rest and expectancy, as also such as have been cured by puncture or vaginal incision; and they record deaths following the treatment by expectancy as well as by operation. I exclude the treatment by rest as lying beyond the scope of these observations. Puncture is unsurgical, and now obsolete. Vaginal incision and abdominal section then remain to be considered as means of surgical relief. It is not essen-

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tial to reproduce all the cases treated by vaginal incision hitherto reported, whether successful or not. I have selected the details of a few, merely to exemplify their characteristics and their serious nature. On the same principle I have selected the details of a few operations by abdominal section, including my own, to place them side by side, in order that, by their contrast, the salient features of both methods can be easily pointed out and conclusions definitely arrived at.

The case of Minot,[1] reported at the Boston Obstetrical Society, is exceedingly instructive, and may well serve as a pathological text. The tumor extended within two inches of the navel. The incision was made through the vagina. Progress toward convalescence was unimpeded, and on the fourteenth day after the operation the patient began to sit up. "The next evening, while the house-pupil was syringing the cavity, the patient suddenly uttered an exclamation of pain, and said something had given way within her. No more force had been employed than usual, and the opening was large enough to allow a free regurgitation of the injection, most of which, on this occasion, was found in the bed-pan. Collapse immediately ensued, and the patient died early the next morning." Dr. Fitz showed the pelvic organs. These gave evidence of old as well as recent adhesions, and a staining of some of the tissues, "evidently from the fluid used for injection. . . . The inner surface of the hematocele was rough, of a dark bluish-slate color; it could be readily detached as a coherent membrane, and the cavity contained a somewhat offensive, dirty-gray, soft mass, apparently disintegrating blood-clot. Firm trabeculæ extended across the cavity at certain parts." There was also found, between the uterus and bladder, a circumscribed cavity "as large as a fist," containing encysted serum.

Before proceeding farther, I would call attention to the cause of death in this case, from *penetration of injection fluid into the abdominal cavity;* to the *presence of a disintegrating blood-clot two weeks after operation;* to the "*firm trabeculæ across the cavity at certain parts;*" and, lastly, to the *presence of encysted serous fluid.*

Paul Zweifel,[2] in the "Arch. f. Gyn., xxii. 2," reports four cases opened by incision and irrigation of the vagina, with one death. "In three cases the operation was indicated by the presence of symptoms due to degeneration of the contents of the sac. In the fatal case it is his opinion that, if he had operated sooner, the result would have been different. He enumerates twenty-six cases treated by this method, with four deaths. According to Mundé, *forcible injections were directly responsible in two of*

[1] Boston Med. and Surg. Jour., May 25, 1876.

[2] Abstract Am. J. Obst., February, 1885.

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these fatal cases. He (Z.) concludes that incision "is intended especially as a means of relief for very large extravasations with threatening symptoms or of slow tendency toward absorption. As a method, it is certainly safer than laparotomy (Martin has had three fatal cases), and far easier of performance, as well as followed, in all probability, by a shorter convalescence (in Baumgärtner's case full union occurred only after four weeks)." Zweifel's fourth case was "on her feet" in two weeks.

The same author,[1] in the "Arch. f. Gyn. xxiii. 3," reports another case (successful), and again reiterates the opinion that incision through the vagina is the treatment *par excellence.* The latest statistics from various methods of treatment are given as: 1. Incision *per vaginam*, thirty reported cases, with three deaths, 10 per cent.; 2. Puncture, mortality of, 15 per cent.; 3. Expectant, mortality of, 16 per cent. In the paper previously quoted, twenty-six cases are reported, with four deaths; evidently a discrepancy attributable to the resurrection of one of the dead. Although Zweifel concedes Baumgärtner's case a success, he underestimates the deaths following vaginal incision, exaggerates the deaths after abdominal section, as will be seen presently, and seems to be ignorant of Tait's cases, reported in 1882.

Martin,[2] of Berlin, in a pamphlet entitled "Ein Beitrag zur Festschrift & C.," published in 1882, "has collected and tabulated ten cases (extra-peritoneal hematoma), four of which were met and treated by him. The tumors varied in size, sometimes being as large as a man's hand. . . . The contents of the tumors were almost entirely blood-clots, and only slight hæmorrhage followed their removal. Laparotomy was required in all of his cases, and was followed by recovery in two of the four."

Referring to Zweifel's publications, at the same time corroborating Martin's assertions and describing his method of operating, Duevelius,[3] in the "Archiv. f. Gyn., xxiii. 1," says: "In a recent paper by Zweifel the treatment of hematoma by laparotomy is condemned, because three cases so treated by Martin ended fatally; and the method of vaginal incision is recommended, because, out of four cases so treated, three recovered. Now, up to the present, Martin's correct results are: eight laparotomies, with six recoveries, one case ending fatally from septic peritonitis, one from collapse, no cause being evident at the autopsy. In considering this method of treatment in connection with others, two questions are to be answered: 1. Is the danger lessened? 2. Is the chance of radical cure and shorter convalescence greater? By the vaginal incision and subse-

[1] Abstract Am. J. Obst., June, 1885.
[2] Abstract Am. J. Obst., June, 1883.
[3] Abstract Am. J. Obst., Sept., 1885.

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quent cleansing of the sac the dangers are: 1. Hæmorrhage from the bottom of the sac. Rarely could this be controlled by ligature, and the greater would be the difficulty, the deeper the source of the hæmorrhage. The tamponade of the sac might alone answer. Even though this answer, the procedure is not free from danger; for, owing to the rottenness of the borders of the sac, perforation into the peritoneal cavity is likely. Far otherwise is the case during laparotomy. The operator can proceed with caution and ligate any vessel requiring ligature. 2. The clots cannot often be removed without the use of force, and this force may lead, 3. To rupture into the peritoneal cavity. Further, healing of the sac will take place most rapidly where its contents have been most thoroughly removed; and obviously this can be accomplished most thoroughly by laparotomy. As to the operation itself, in the majority of cases of extra-peritoneal hematocele stout adhesions will be found to exist between the tumor and the intestines. These adhesions by no means constitute serious obstacles. Great care is necessary in the cleansing of the sac, in tying every bleeding vessel. A drainage-tube is to be passed into the vagina and closure of the sac from the abdominal cavity attempted. Ordinarily, however, owing to the rottenness of the sac, this is impossible. It is sufficient, then, to attach its borders to the drainage-tube."

Mundé has reported three cases successfully treated by vaginal incision. The first[1] supposed to be a pelvic abscess, "the withdrawal of only blood by aspiration led to the diagnosis of hematoma. Eighteen ounces of coagulated blood escaped. A tumor was then recognized within the cavity, of the size, form, and consistence of the human heart. The patient's condition did not seem to justify him in manipulating the tumor to discover its exact nature, but it was thought it might be a sarcoma. The cavity was washed out with a solution of corros. subl., 1 to 5,000; a drainage-tube was introduced, and also iodoform gauze. Within a day or two frequent irrigations with the disinfectant were begun, but the temperature rose to 103° to 104° F., falling after each irrigation. As it was evident that the rise of temperature was of septic origin, the cavity of the hematoma was explored, and the tumor referred to was found to be composed of coagulated blood, and breaking down. It was scraped out, and weighed eight ounces; the cavity from which it came measured five inches in diameter. The patient made an uninterrupted recovery."

In a paper[2] bearing on this subject Mundé says: "There are three methods of dealing with this question, and each method has had, and still has, its retainers: 1. Expectant treatment. . . . 2. Puncture. . . .

[1] Am. J. Obst., September, 1885.

[2] New Yorker Med. Presse, Vol. I., No. 1, December, 1885.

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3. *Free incision, followed by drainage and irrigation*, whereby the coagulated blood is entirely removed through an incision *per vaginam*, and the cavity is kept clean and aseptic through constant or frequent drainage and irrigation. A. Martin's proposition to treat these cases by laparotomy, notwithstanding Baumgärtner's one successful case, has found no adherents since Martin's three cases died. . . . The danger from incision and irrigation of the blood-cavity is secondary hæmorrhage and septicæmia. Hæmorrhage is scarcely to be expected if the incision is made some weeks after the formation of the tumor, and if it occur, we can temporarily use the tampon; sepsis may be prevented by careful antisepsis. . . . Mundé's opinion agrees with Zweifel's (whom he calls the latest authority on this subject), and is, that free vaginal incision of large pelvic hematoma is by no means as dangerous as has been thought."

These extracts from Mundé's paper show him to be a close follower of Zweifel, whose errors he copies and whose method he emphatically substantiates. Mundé, too, has failed to discover that, simultaneously with Martin, Tait had, in 1882, by a better method, successfully treated cases by abdominal section. He would not otherwise single out Baumgärtner as being the only one whose operation was followed by recovery.

Byford,[1] in "a study of the causation and treatment of pelvic hematocele," reports a case opened by vaginal incision, from which I quote an interesting feature occurring two weeks after the operation: "Having just read, for the first time, the article of Apostoli and Doleris, in the 'Archiv de tocol.' for November, 1885, I reproached myself for my timidity in not thoroughly curetting the cavity at the time of the operation, and thus getting rid of this foul-smelling mass in advance. Finding the patient up and feeling quite well, I ordered her to bed, and proceeded to scoop out the abscess with Thomas' dull curette. I went over every part of it *carefully and gently* [Italics, mine], without eliciting any complaint from the patient, and found it still to extend above the top of the uterus at the left side. Upon using a 1½% sol. of carbolic acid she suddenly experienced such acute pain in the left iliac region, where the lumps were situated, that I thought I had made an opening into the abdominal cavity. The lumps, which had almost disappeared, became more prominent, bloating commenced, and tenderness became marked. Pulse 70, temperature 97⅘° F." This was followed by chills, gradual rise of temperature, and the tenderness did not disappear for six days. The patient recovered in thirty days.

The author then continues: "It is singular with what unanimity the

[1] Am. J. Obst., November, 1886.

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text-books recommend non-interference for hematoma and hematocele until dangerous, or at least serious, symptoms arise. After performing the above-reported operation I searched them in vain for authority in so doing, but was met everywhere with echoes of Nélaton's conservative cry of alarm. Finally, obtaining a copy of Billroth and Luecke's 'Frauen-Krankheiten,' second edition, 1886, I found evacuation recommended by Bandl," "when a large accumulation remains stationary for weeks without showing any tendency to resorption." ". . . That the treatment thus formulated is decidedly in advance of anything that has gone before it must be acknowledged. . . . The plan adopted in the case reported, but only imperfectly executed, of breaking up the entire clot, but avoiding any scraping of the walls of the cavity, proved to be as efficient as imperfect curetting, and vastly less dangerous than a thorough curetting of the cavity walls. . . . The possibility of the presence of extra-uterine pregnancy, ovarian tumor, serous peritonitis, fibroid or fibro-cystic tumor of the uterus, etc., makes it advisable always to use an aspirating needle previous to using the knife. Abdominal section for such tumors as cannot be safely reached through the vagina or rectum is purposely left out of consideration, as a different set of dangers are involved and a separate discussion would be required."

Byford's lamentation on account of the wofully conservative tone of our text-books, with reference to the modern treatment of hematocele and hematoma, finds me fully in accord. I heartily endorse his strictures. In his vain search, however, of the literature of the day, for instances of vaginal incision, he neglected to pay any attention to what had been accomplished by the abdominal method, which he restricts, with Beckwith, to those cases only "that cannot be safely reached through vagina or rectum."

Gusserow,[1] in the "Archiv f. Gyn., XXIX. 3," is the only authority who can report eight successful cases treated by vaginal incision without sepsis and without other untoward symptoms. He thinks laparotomy in these cases "entirely unnecessary."

Philips[2] reported to the Obstetrical Society of London a case treated first by aspiration, and then by opening of the vaginal *cul-de-sac* with Paquelin cautery, with good recovery. In the discussion which followed, Dr. Gallabin remarked that "he had never intentionally opened a hematocele, but had twice made an exploratory abdominal section with good result in cases which turned out to be hematocele, not dependent on extra-uterine gestation. In both cases there was an elastic tumor reaching to the

[1] Abstract Am. J. Obst., January, 1888.
[2] Brit. Med. Journ., Oct. 15, 1887.

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umbilicus. In both the peritoneal cavity was washed out with hot water, the contents of the hematocele having in one of them been in an entirely fetid condition. In one of these cases pyo-salpinx was found and removed, and the advantage of the abdominal section was its allowing the removal of sources of mischief."

A case was reported to the Cambridge Medical Society [1] as having been operated on by Bland Sutton, who removed appendages, and hematoma, and surrounding omentum with good recovery.

Lawson Tait,[2] referring to extra-peritoneal hematocele, says: "Of this variety probably 95% of the cases get well by being left alone, while the others suppurate and require to be opened. *I used to open them by the vagina, but now I open them by abdominal section, with far better results.*" (Italics, mine.)

In his Inglesby lecture on "Pelvic Hematocele," [3] the substance of which might well be embodied in all modern text-books, Tait mentions a case on which he had performed abdominal section for some trouble other than hematocele, which latter, however, developed shortly after the operation. He then says: "In the case of C. T. I tapped the hematocele from the vagina and drew off a large quantity of tarry blood; but in fourteen or fifteen hours the sac had filled again, and the patient had become exsanguine. I therefore reopened the abdomen, opened the distended cavity of the broad ligament, emptied out the blood fluid and clots, sponged it out with vinegar and water, fastened the edges in the aperture to the edges of the parietal wound and placed in a drainage-tube. The patient then made a rapid recovery."

Tait's six cases of suppurating hematocele have already been referred to in the quotation from Hart and Barbour. He has operated in a similar manner, by abdominal section, in over thirty cases of pelvic abscess, all recovering.

Goelet's [4] case of successful laparatomy for extra-peritoneal hematocele demonstrates the difficulties to be encountered in following Martin's (Duevelius') directions for operation, by attempting to suture the sac after abdominal section and draining through the vagina. Having opened the abdominal cavity, he says: "The sac was now completely emptied, and a puncture made through the bottom into the vagina, and a large drainage-tube inserted which projected through the vulva. The rent in the peritonæum through the sac wall was carefully closed with catgut suture, but with considerable difficulty, as the walls were weak from overstretching, and in many places would tear in pulling the sutures through. The peri-

[1] London Lancet, Jan. 15, 1887.
[2] London Lancet, Sept. 4, 1886.
[3] London Lancet, Oct. 30, 1886.
[4] Annals of Gynæcology, January, 1888.

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toneal cavity was then shut off from the sac cavity as completely as was possible. The peritoneal cavity was carefully sponged out, a glass drainage-tube inserted to Douglas' pouch. . . . The sac cavity was now flushed with a 2% sol. of carbol. acid through the tube in the vagina. Some of it returned by the vagina, but some escaped by the abdominal tube, showing that the peritoneal cavity was not completely shut off from that of the sac." There were some septic symptoms, convalescence was protracted, and recovery took place after two months.

In Seymour's[1] case of successful abdominal section there was no choice as to method of operating; it could not easily have been reached from the vagina. It belongs to that class of cases in which Byford, Beckwith, and Winkel-Parvin would sanction laparotomy as the only means of relief. The case must therefore be excluded from this comparative study, but it is nevertheless to be numbered among the successful abdominal sections for extra-peritoneal hematocele.

Dr. Fanny Berlin[2] reported a case of recovery after laparotomy for ante-uterine hematocele; but this was, according to the writer's own opinion, one of the *intra-peritoneal* variety, and cannot on this account be credited as a successful abdominal section for *extra-peritoneal* hematocele.

In reviewing the material here collected, I was at once struck by a feature which is quite a surprise to me, and may be as much to others. It seems hardly credible that there have hitherto been placed on record in this country only two cases of extra-peritoneal hematocele treated by abdominal section! Is it because vaginal incision has proved so safe, so universally satisfactory, that a better method cannot be devised, or is entirely useless? Or is it because fatal cases operated on by section have been purposely withheld from publication? Or have I failed to find the record of such cases for want of accessible literature? The first and second queries can be emphatically answered in the negative. All are agreed that the operation by vaginal incision is not free from danger, and it is not at all probable that a total silence on this one subject could be observed as if by concerted action. As to the third query, I am well aware that my search is not exhaustive; that it may prove to have been deficient, but not through lack of any efforts on my part. If my misgivings and hesitation to assume an isolated position in the presence of so many "crowned heads," so to speak, are dispelled by contrary facts, the responsibility must be placed at the door of others besides myself. We have seen Mundé dispose of abdominal section in short order. Byford seems ignorant of its existence. That representative work, "The Ameri-

[1] Am. J. Obst., September, 1888. [2] Am. J. Obst., May, 1889.

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can System of Gynecology," so ably edited and so highly esteemed by every gynæcologist, has elsewhere been quoted, condemning, in no uncertain tones, abdominal section in these cases as unjustifiable.

It does not seem to me probable that I have overlooked or misinterpreted American authorities. It does seem incredible that the work of Tait and Martin, whose very names are authority, should be either misrepresented or totally ignored. And this the more, since these researches lead to the inevitable conclusion that the strong advocacy of abdominal section for extra-peritoneal hematocele by Tait and Martin is founded upon more substantial grounds than merely the temerity with which these operators open the abdominal cavity!

Now let us sift the evidence and consider the facts as substantiated *clinically* and *post mortem*. The advocates of *vaginal incision* point out as *dangers* from that method: —

1. *Hæmorrhage.*—Though willing to endorse what Duevelius has to say about the difficulty of controlling hæmorrhage through the vagina, should it occur, I am also ready to agree with Mundé that a few weeks after the occurrence of the hematocele the danger of such hæmorrhage is not very great. Among all the operated cases on record I *do not find a single one* in which such an accident caused death, or even happened at all.

2. *Septicæmia.* — This is acknowledged by all to be a great source of danger, and with good cause. If suppuration is already present before the incision is made, sepsis is going on, and further absorption can be avoided or reduced to a minimum only by thoroughly cleansing the cavity of the sac of all decomposing material. If the blood accumulation is still untainted, the opening of the sac, the admission of air, the impossibility of keeping the vagina aseptic, are bound to lead to the disintegration of the clot, and hence to septic infection. The degree of this infection will be commensurate with the amount of poisonous material left in the sac, and the thoroughness and rapidity with which it can be neutralized and removed. The autopsy in Minot's case, two weeks after operation, demonstrates the presence of "a somewhat offensive, dirty-gray, soft mass, apparently disintegrating blood-clot." Zweifel says about his fatal case: "In three cases the operation was indicated by the presence of symptoms due to degeneration of the contents of the sac. In the fatal case it is his opinion that, if he had operated sooner, the result would have been different." I infer that the cause of death in this one case was septicæmia. The histories of all the successful cases, except Gusserow's, who claims to have had no sepsis, point to more or less infection during the first two weeks of convalescence. Not only do the details of the

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cases of Minot, Mundé, and Byford corroborate this assertion, but it is further confirmed by the reports of Morrill,[1] Reamy,[2] and Balleray.[3] When firm trabeculæ extend across the cavity, as in Minot's case, or when partitions subdivide the cavity, as in my case, the chances for septic infection, for want of thorough and rapid evacuation, are manifoldly increased.

3. *Penetration of the Injection Fluid into the Abdominal Cavity.* — This danger has certainly been underestimated. Neither Zweifel nor Mundé deem it worthy of notice; and yet, next to septicæmia, it is responsible for more deaths than any other cause. It caused the fatal termination in the Minot case. According to Mundé, "forcible injections were directly responsible in two of the four fatal cases" reported by Zweifel (unless Minot's case and one of Z. L.'s are identical). Byford's case had but a hairbreadth escape from the same source. I can recall a similar narrow escape in a case of pelvic abscess opened and irrigated through the vagina.

The *advantages* of the *vaginal incision* are said to be (Zweifel): —

1. *The Ease of Performance.* — If the operation consisted merely in making an incision through the most prominent part of the vaginal vault, this argument would be well-founded; but the clots must be broken up, the partitions destroyed, the walls scraped "carefully and gently" withal, and the cavity with weakened walls then irrigated. Any man who has it in mind to undertake this "easy" operation, had better leave it undone, unless he is thoroughly prepared to perform abdominal section on short notice. What has the ease of performing an operation to do with its safety? Under ordinary circumstances an operator will look to the safety of his patient first, and will prefer the more difficult operation, if he gain in security by so doing.

2. *A Shorter Convalescence.* — This matter allows of great latitude and is not essential; but let us follow the argument. A patient may have a cavity of the size of an orange, or of a child's head. One patient may be exsanguine; another full of sepsis; a third has some dyscrasia; and still another may be comparatively well-preserved. Can there be any standard by which the time of convalescence can be measured and compared under such circumstances? Again, a patient may be allowed to get up and be about with a drainage-tube still in the vagina, — she is then "up and about in two weeks;" but is she cured in that time? Now, what are the facts? Morrill's case recovered in thirty-seven days; Reamy's, in twelve

[1] Boston Med. and Surg. Jour., December, 1875.
[2] Am. J. Obst., July, 1879.
[3] Med. News, Phila., March, 1883.

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weeks; Balleray's, in four weeks; Byford's, in thirty days; Mundé's, not stated; Zweifel's fourth case was "*on her feet in two weeks*," his other cases not stated. On the other hand, Tait's cases averaged about thirty days; Martin's, not stated; Baumgärtner's recovered in thirty days; Goelet's, in two months; Seymour's, in six to eight weeks; and my own was entirely well in thirty-nine days. The facts then demonstrate that the time of convalescence is a relative matter, and that each case must be judged by concomitant circumstances.

The *dangers* from *abdominal section* are those of opening the abdominal cavity for any operation: —

1. *Shock* from large incision, prolonged exposure of viscera, or prolonged anæsthesia. All of these dangers can be greatly mitigated by proper diagnosis and thorough preparation. In my own case the operation lasted one and a half hours, but could have been completed in an hour if the diagnosis had been correct before operation. For the same reason the incision might have been shorter.

2. *Septicæmia*. This danger is reduced to a minimum by careful drainage and after-treatment. It requires no argument to demonstrate that the sac opened from above can be cleansed *at once of all* blood and fetid material, and that such *thorough work cannot be with safety* accomplished by an opening from below. For proof, read the details of the cases reported by Minot, Mundé, Byford, and the rest.

3. *Subsequent Ventral Hernia*. This can be prevented, to a great extent, by small incision, close suturing, and by avoiding haste in allowing the patient to be on her feet. The attempt to "beat the record" after any abdominal operation is reprehensible; it is no credit to the surgeon, and may permanently cripple the patient.

The *advantages of abdominal section* have already in part been given in the words of Duevelius; his argument is as true now as when he published it: —

1. *The complete control of hæmorrhage*, if there be any.

2. *The ability to keep the sac almost aseptic.*

3. "*The healing of the sac will take place most rapidly where its contents have been most thoroughly removed.*" With the hand or fingers (much safer than the curette) in the sac cavity, any bridge or partition can be broken up, all the clots scooped out, and the wall properly washed, without force or danger of rupture of the sac. This is done *with the cavity exposed*, and *not in the dark*. Weak spots in the sac can be noted and repaired. In my case the uterus was utilized in filling a gap of softened sac wall.

4. *Any other condition in the abdominal cavity requiring inter-*

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ference can be simultaneously remedied. Thus, in Minot's case, the encysted serous accumulation could have been destroyed. In Galabin's case a pyosalpinx was removed. Bland Sutton removed the appendages and part of the omentum. Byford conceded this advantage when he says: "The possibility of the presence of extra-uterine pregnancy, ovarian tumor, serous peritonitis, fibroid or fibro-cystic tumor of the uterus, etc., makes it advisable to use the aspirating needle previous to using the knife."

Of all the cases of abdominal section here collected, two have proved fatal. These were among the first four operated on by Martin about 1881. Since then not a single fatal case is recorded. The question suggests itself whether, with the light of to-day, these operations were really indicated. Not having access to the details, I may be wrong in my surmises; but none were larger than "a man's hand," and their contents were "almost entirely blood-clots." At that early day the technique of, and thorough antisepsis in, abdominal surgery were in their infancy, so to speak; while the antisepsis used in vaginal incision in 1885, the date of the report of Zweifel's cases, was carried out fully as well as it is to-day. The cause of death in one case was collapse; the other died of septic peritonitis. Both shock and sepsis can now be much better guarded against than at that time. Can we avoid death from penetration of injection fluid any better now than when these deaths occurred?

While I have limited this record to the seven (six and one) successful cases of Tait, because they were extra-peritoneal hematoceles, his thirty cases of pelvic abscess, operated on in a similar manner, must be conceded to strongly fortify my position in favor of abdominal section. The opening of a pelvic abscess by the abdomen, before adhesion between abscess wall and parietes has taken place, is certainly more dangerous than a similar opening of a sac containing only blood, and just as dangerous as one containing disintegrating blood-clots. Yet these thirty abscess cases were thus opened without a single fatality.

If we reflect a moment, we must admit that a hematocele, not pathologically, but analogically, may be considered the first and most favorable stage of abscess. Does it not, in the course of a few weeks, when not absorbed, disintegrate and suppurate? Is it not a fact that most of the cases reported are already in a state of disintegration; hence, virtually, abscesses? Mundé's first case contained only blood, but was soon converted into a fetid abscess, because it had not been properly evacuated. The same can be said of Byford's case. My case contained only blood, and was prevented from advancing to the stage of abscess by the facility with which the sac was continually kept dry and empty.

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I will not, however, attempt to screen abdominal section by excluding Martin's first four cases, and thus shirking the responsibility for the only two recorded deaths, nor by adding Tait's thirty cases of pelvic abscess to decrease the mortality rate. Assuming that Zweifel's statistics are correct, the case stands thus: —

OPERATION BY VAGINAL INCISION.

Zweifel (collected)	30 cases, with	4 deaths.
Minot (unless included among the 30)	1 case, "	1 death.
Morrill " " " " "	1 "	
Reamy " " " " "	1 "	
Balleray " " " " "	1 "	
Mundé	3 cases.	
Byford	1 case.	
Philips	1 "	
Gusserow	8 cases.	
Total	47	5

OPERATION BY ABDOMINAL SECTION.

Martin	8 cases, with	2 deaths.
Baumgärtner	1 case.	
Tait	7 cases.	
Galabin	2 "	
Sutton	1 case.	
Seymour	1 "	
Goelet	1 "	
Rosenwasser	1 "	
Total	22	2

Conceding, then, that these statistics may not be complete, and that the unpublished fatal cases after vaginal incision[1] do not outnumber similar cases after abdominal section, and allowing no discount on Martin's first cases, — conceding all these adverse factors, the results after abdominal section stand a little above par when compared with those after vaginal incision. Total number collected by *abdominal section, twenty-two, with two deaths, or a mortality of 9.09 per cent.* Total by *vaginal incision forty-seven, with five deaths, or a mortality of 10.63 per cent.* Even if a few are duplicated among the thirty cases, there remain *forty-*

[1] A fatal case of this kind occurred a month or two ago at St. Alexis Hospital in this city. Cause of death, septicæmia.

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three, with four deaths; mortality, 9.3 per cent. I hope this impartial showing will suffice to demonstrate that *abdominal section is*, to say the least, *a feasible, justifiable*, and *most emphatically the preferable, operation*. This operation for extra-peritoneal hematocele, when surgical interference is required, is as much an advance over vaginal incision as was the latter an improvement over puncture. I would add a third to the two propositions proved by Duevelius "in considering this method of treatment in connection with others:" —

1. The danger is lessened.

2. The chance of radical cure and shorter convalescence is greater.

3. The chance is afforded of simultaneously removing other diseased conditions.

There are two distinct methods of performing abdominal section for extra-peritoneal hematocele: the one practised by Tait, who "fastens the edges in the aperture (of the sac) to the edges of the parietal wound, and puts in a drainage-tube." The other practised by Martin (Duevelius), who, after having opened the peritoneal cavity, passes a drainage-tube into the vagina (through Douglas' pouch), and closes the sac from the abdominal cavity; or, if he cannot accomplish this, he attaches the borders of the sac to the drainage-tube. While Goelet followed Martin's method by attempting to shut off the sac from the abdominal cavity, I followed Tait's method, draining through the parietal wound only. Vaginal drainage was rejected, not because of any knowledge of what Tait or any one else had done, but from the application of the principles of aseptic surgery at present everywhere accepted. Our varied experiences serve to demonstrate the relative value of the two methods. Goelet could not keep his wound aseptic. There was a communication between vagina and abdominal cavity, which caused much trouble, and prolonged the convalescence of the patient. In my case the cavity of the sac remained extra-peritoneal, and cleanliness was rendered absolutely perfect. I would therefore recommend the method practised by Tait as the safer and the more feasible.

If a diagnostic error has been the means of saving my patient's life and of extending my own limited store of knowledge, the mistake has been fully atoned for. If it has brought more prominently before the profession a useful, though much neglected, method of operation, I shall feel undeservedly repaid for my pains. The credit is due to error, not to merit.

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REPORT OF TWO CASES OF STRANGULATED BOWEL, FOLLOWED BY GANGRENE; OPERATION FOR BOTH ENDING FATALLY.

BY THOMAS H. MANLEY, M.D., OF NEW YORK.

Now that we are assured by many modern operators and investigators that, under ordinary circumstances, we may boldly enter the peritoneal cavity without any special danger to life, it would seem a duty on the part of every surgeon who manipulates in this region to report his operations,—failures as well as successes; and in this way, by the grouping of sufficient cases, contribute his share towards establishing on a substantial basis the genuineness or fallacy of this claim. Especially valuable would it be if we could reach some common ground, in abdominal lesions involving the intestinal tract.

Both of the cases which will be considered here were operated on the same day, but in many respects were quite dissimilar to each other.

The first, a woman of 35 years, married, of rather large build, and full habit, the body being well covered with fat. She would probably weigh something in the neighborhood of two hundred pounds.

History.

On Saturday, the 8th of June, while out clearing up some rubbish in her garden, a rake which she held in her hands happened to drop. After stooping to pick it up she felt, she said, "something break in her left side, in the groin." She thought nothing of it at first, but found shortly that she must desist from using the rake any further and go into the house. Now she commenced to have pretty sharp pain, which extended up towards the back. Her family physician, on being called in, very naturally assured her that from so trivial an accident surely nothing serious could come, advised her to lie down, and he prescribed some kind of a stimulating liniment.

Towards evening she felt much better and passed a fairly comfortable night, but in the morning the racking pain returned, and the doctor was again summoned.

An aperient was now ordered, after the location of the pain had been examined, and some other kind of application made over the painful region.

She became much worse towards night, when morphine was given. She now felt nausea setting in. The aperient did not act, and rectal in-

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jections were given. The enemata, however, failed to give any relief. On Tuesday morning a consultation was held, when it was discovered that she had a hernia on the left side. Careful efforts were now made by taxis to reduce it, but without success. Local injections of morphia, cold applications, etc., were applied; all to no use, however, as the protrusion stubbornly resisted all efforts of reduction. At this time the unequivocal evidence of strangulation was visible.

Persistent, stercoraceous vomiting commenced, with great bodily weakness.

Peritonitis declared itself by the tympanitic sensitive abdomen, and great pain, and it was now evident that immediate measures must be resorted to for her relief. She was admitted into the Harlem Hospital late at night, on the *third day* after the accident, Tuesday, and I saw her, for the first time, at midnight.

At this time it was only too clear that any kind of operation could afford but a most forlorn hope. She was, indeed, *in extremis*. Though her mind was unclouded, and she was sanguine of recovery, her general condition was at an extremely low ebb.

The extremities were cold, the skin was covered with a clammy perspiration, the pulse was 150 to the minute or more; and there she lay, prone on her back, her strength entirely gone.

How, forsooth, one could in the manner above described produce a strangulated hernia (she never had hernia before, that she knew of), and how, in so short a time, that accident could put her life in such jeopardy, was, surely, interesting to contemplate.

An operation was undertaken for her relief only with the greatest reluctance, and with her repeated assurance that she was prepared for the consequences, and desirous of our making an effort to save her life.

After she was anæsthetized, a free incision was made over the left inguinal canal, with a view of opening down on to the sac. It was quite easy to see how a hernia was overlooked in this case, as there was scarcely any prominence where we would expect it.

After carrying the incision down to the aponeurotic structures, the round ligament and external ring were sought for.

When these were exposed, it was found that the bowel or omentum had not come through; that we had a bubonocele to deal with.

We now divided the roof of the inguinal canal, up to its end, when an oblong sac, very greatly distended, was seen, about three times the thickness of the finger. The sac was liberated from the strong, tough adhesions which bound it down in every direction, and the seat of constriction looked for. It was found immediately within the internal ring, where

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the oblique fibres of the transversalis, and those of the internal oblique, fuse, to form the inner pillar of the ring. The neck of the sac did not appear to be tightly nipped, and it seemed rather remarkable, at this stage of the operation, how this slight impediment could be the cause of such a serious condition. The next step in the operation revealed a most remarkable condition of affairs. Immediately after picking up a fold of the peritonæum with the forceps, and dividing it, fluid fæces welled through the wound. It seemed to come from near the seat of strangulation.

After dividing the sac on a director, up to and through the neck, fæculent matter poured out through the ring from the peritoneal cavity.

On examining the bowel now, on one side, close to the mesentery, a long oblique rent was found, which extended from about the middle of the sac, upward, through the point of constriction. The gut itself was thoroughly gangrenous, the sphacelated tissue emitting a foul, sickening odor.

It was hurriedly decided to open up freely the peritoneal cavity, thoroughly free it of fæcal material, and drain. When our incision enlarging the opening was made, and we had a better opportunity to inspect the parts, it was found that the intestine giving rise to the hernia was the ileum, and that the rupture, held in its displaced position by old indurated bands of tissue, matted together. It was agreed that the best thing to do, under the circumstances, would be to have an artificial anus, at least until later; but before we could complete the dressings our patient was dead, with that horrible smelling matter now drooling from the mouth.

Comments.

There are a few things which this case, I think, decides, with no equivocal emphasis. The *first* is, that when we find the first symptom of strangulation not a minute's delay should be permitted. The next, that prolonged taxis will often do more harm by bruising and contusing the tissues than if nothing at all is done.

In this instance the bowel was burst by harsh pressure when its walls were weakened by mortification.

The old adhesions discovered confirm what I have always believed; viz., that in strangulated hernia, though the victim may be unconscious of it, there is always an *abnormal* condition of the parts, most frequently congenital, but often acquired, which, when put on a strain or with sudden motion of the body, may give rise to protrusion of the gut. A question

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of considerable interest in these cases is, is it well to undertake an operation for hernia when the patient is in shock-collapse?

Some maintain that an operation under ether does not aggravate shock, and that its presence should not militate against interference when the condition for which relief is undertaken is well defined.

I believe this a vicious and dangerous assumption. For myself, I will hesitate a good while another time before I venture to open the peritoneal cavity when the pulse goes up to 140 or more per minute, unless the lesion involves great loss of blood.

SECOND CASE. — HISTORY.

This patient, a man of 45, eight days before admission was taken ill with severe pains in the region of the navel. For this he was treated with the usual domestic remedies till the third day, when a physician was called in.

He found, on inquiry, that his bowels had not opened for four days, and hence prescribed laxative medicine.

When it was found that these were immediately vomited, *enemata* of soap-suds and sweet-oil were given; but they brought away nothing except a few hard lumps of fæcal matter, and gave no relief.

With time, the pain becoming more and more severe, hypodermics of morphine were given, and in this way considerable relief was attained.

On the morning of the 10th of June he was sent to the Harlem Hospital, entering at the noon hour.

At this time his pulse, though not rapid, was very weak. His temperature was 99°, and the respirations were very slow, no more than ten to the minute.

There was a marked fæcal odor from the breath, with very persistent, stercoraceous vomiting.

It was quite evident that the normal peristaltic wave of the intestines was reversed, and hence sending everything upwards, instead of in the normal course, towards the anus, — a condition which portends great danger to life, and is always, in my experience, an invariable symptom of intestinal obstruction, demanding immediate operation for relief when this can be safely done.

I examined carefully for hernia, but found none.

Finding no evidence of external protrusion in the inguinal region, we now turned our attention towards the abdomen, higher up. There was no distention in this situation, nor could we make out any unusual fulness in any of its regions; in fact, the result of our examination of it was simply negative.

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Of course, there may be prolonged constipation, from atony of the muscular coat of the bowel, which, in time, will right itself by simple measures. But when we get great pain and persistent vomiting in one who had *always before* been *regular*, and with sudden stoppage of the colon's contents, we have *well-founded* suspicions of some serious change going on within the peritonæum.

It was towards evening — about five o'clock — when I was asked by the visiting physician, Dr. John G. Truax, to see the patient. The doctor said that as medical measures of relief had failed, and as he was rapidly losing strength, he thought something should be done by a surgical operation; in other words, he thought the operation of laparotomy for intestinal obstruction might be undertaken.

That there was intestinal obstruction could not be doubted, though there was nothing in the form or consistence of the abdomen to indicate it. Whether it was an intersusception, volvulus, a neoplasm, an enterolith, or twisting of the bowel, could not be decided.

Everything was hastily arranged, and an operation commenced, by making an exploratory incision in the median line, about four inches long, and carefully opening the peritoneal cavity. Immediately on dividing the visceral layer of the peritonæum, a coil of intestine presented in the opening, which, from its great size, was first taken for the colon; but the absence of the little fatty bodies, the *appendices-epiploicæ*, and the smooth, regular outline of the gut, at once indicated that we were mistaken; besides, on carrying the hand into the abdominal cavity, the colon, enlarged, was found in its normal position.

This enormously distended loop of intestine was the ileum; and in following it downward about two feet, the finger was suddenly arrested by a band of fibrous tissue, which held it tightly constricted. The thumb and finger nails, by gradual lifting and tearing, separated the constricting band. In lifting out the bowel, it was seen that a loop of it, about three inches long, had been caught and strangulated. Below the seat of constriction the gut was of normal size. When we came to examine the part of the gut caught by this adventitious strip, it was found to be perfectly bloodless when cut into on the surface. It was of a dark-brown color, and had two well-defined ulcers commencing on its surface, —one near the point of constriction, and the other in the centre of the loop. Under the finger, the bowel had an inelastic, doughy feel, and freed from all pressure still preserved its deformed outline. It was unquestionably gangrenous and dead, and useless to return, as perforation would undoubtedly have followed.

Accordingly I went on and excised the necrotic portion of the intestine,

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and did an enterectomy. Not having Senn's plates or Abbe's apposition mats of catgut at hand, I brought the ends of the bowel together with Czerny-Lembert suture. There was very little exposure of the intestinal tract in the operation, as after the open ends of the bowel were brought through the wound, a couple of interrupted sutures closed the abdominal incision, simply to keep the other viscera well within the peritoneal cavity, and out of the way of exposure.

There was very little blood lost; the mesenteric attachment to the exsected loop being carefully sutured off, by the cobbler's stitch, before the vessels were cut through with the scissors.

The peritoneal cavity was thoroughly irrigated with bichloride solution one to twenty thousand, a drainage-tube inserted, and the wound closed by suturing the peritonæum first.

Our patient was very low when the operation was completed.

He never rallied, and died at 3 A.M., eight hours after being returned to bed. Such, then, was the sad end of our case.

It may be said that we might have taken chances in the gut, and returned; as it is well known that the intestine will sometimes regain vitality when its coats have a most ominous appearance.

Had we not found the spots of ulceration, one nearly perforating through, we should certainly not have made the delay which an enterectomy occasioned.

On examination of the resected portion of the intestine it was found in spots thoroughly broken down, with patches as thin as tissue-paper.

Its return would most certainly have been soon followed by perforation and fulminant peritonitis, so that its removal was indispensable to the restoration of intestinal integrity and functional activity.

It may be well, in connection with this latter case, to examine into what may be accomplished, in those of intestinal obstruction, by abdominal section, and what without it.

Assuming that an incision into the peritonæum, with every effort to attain perfect asepsis, is unattended with danger to life, — something which I most emphatically deny, — there are usually insurmountable obstacles in the way of its performance. This question was most ably discussed at a recent meeting of the "Obstetrical Society of Philadelphia," in a paper read by Dr. Hirst, and reported in the ANNALS for June.

The general consensus of opinion was, to always advise an early operation. The opium treatment was soundly abused.

When we bear in mind how common constipation is; how the bowels may be confined for weeks, without in the least seriously compromising life; when we remember what a very large dose of a purga-

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tive medicine is sometimes demanded to open the bowels; and when we admit — as *we must* — that an opening into the peritoneal cavity is always attended with something more than imaginary danger; and, lastly, when we see what wonderful results may be attained — singularly by that drug which usually constipates — by opium, in those cases of bowel obstruction, we can well understand why the experienced and conscientious practitioner hesitates before he turns his patient over to the *abdominal* surgeon.

There can be no doubt but in a certain class of cases the plan of Treves, in giving opium *in full* doses, will save life. I have seen two instances where the peristaltic wave was reversed, and stercoraceous vomiting was almost incessant from intestinal obstruction, wherein morphine was given in heroic doses. One was in a woman who had puerperal peritonitis, and the other in a young man whose difficulty originated in typhlitic trouble.

In both, after relief from pain was secured, and a fair share of sleep obtained, the bowels opened; the woman's having been confined *eleven* days and the man's seven.

I am sure there are very few in private practice who would recommend laparotomy until he had first tried injections, from *above* and below.

If the impediment is in the colon, and its walls are healthy, hydraulic pressure will break through any recent band of adventitious tissue which may have constricted it.

On the other hand, when the impediment is higher up, beyond the ileo-cœcal valve, then we must charge the obstruction with liquids in a downward direction; and this is only practicable with saline laxatives which induce copious watery secretions. Though, when there is much inflammation present, that the latter may do harm is unquestioned; but there are not unfrequently cases in which it is the ideal treatment.

When inflammation is present, and the bowels are more or less congested, I can easily understand how opium, as recommended by Treves, will be of infinite value.

There will be cases, of course, which can only be relieved by operative measures.

But who will advise section of the peritonæum, except as a last resort? Not until he has faithfully and patiently tried every other resource.

We must not shut our eyes to the fact that the peritonæum in the male will not tolerate manipulation with same immunity as in the female.

If indications for operation are clearly indicated, and it can be done early, its dangers are minimized, and success will probably crown our efforts. But here "is the rub." Exclusive of that one sign, fæcal vomiting, what other is there, which with any constancy points to occlusion

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of the bowel? And this, be it remembered, comes only late, and is usually accompanied with great prostration.

Now, as to its early performance. When we have no pathognomonic symptoms at the outset, no signs which point to strangulation and *nothing* else, who would recommend an operation, and where is the sane patient who would permit it?

Of all the cavities there is none in which a diagnosis is made with more difficulty than the abdominal.

In our man who died, there was not the slightest evidence of internal trouble as far as could be learned from an external examination.

I think the tendency of late has been to encourage too much freedom with the peritoneal cavity, without dwelling sufficiently on the dangers attending operative procedures here.

If a patient comes in late, and dies after operation, his faithful medical attendant, who shares none of the glory of doing a capital operation, is sometimes unjustly abused by the operator.

From my own experience, I am led to the following conclusions: —

First, in cases of suspected intestinal obstruction most persistent effort should be made to relieve it by the rectum; by large, warm injections, given repeatedly, which failing, then give them through the rectal tube. In the mean time knead the abdomen and change the posture. If there is no vomiting give a brisk purgative, which, by exciting peristaltic action, may tear away the constricting band and set the bowels free.

Opium should be given to relieve pain, and, under certain circumstances, with a view of effecting a cure.

An opening of the abdomen is always to be looked on as an operation serious in itself, and it should be done or advised only when every other means of relief fail, and life is in immediate peril.

We should always warn our patient of his danger, when we proceed to laparotomize, so that his friends cannot charge us with underestimating the real gravity of his situation.

CORRESPONDENCE.

Editor Annals of Gynæcology: —

Dear Sir, — Honest criticism is healthful in all departments of science. It is improving to the faculties of the critic, sharpening and making more exact all his ideas. It causes those whose works are criticised to reflect, and often calls to their attention many thoughts to them unknown or overlooked; but when it descends into a general condemnation, unsupported by reason or fact, it loses its potency, and does evil to

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some and good to none. These ideas are suggested by the paper read before the Philadelphia Obstetrical Society, May 3, 1889, by Dr. Henry Beates, Jr.,— "A Fistulous Tract following Laparotomy for Pyosalpinx." The writer starts out by challenging the accuracy of notions prevailing among abdominal surgeons. I cannot see, from his remarks upon this subject, to what he refers, — whether to incorrect diagnosis, procedure, or prognosis. Would it not have been just to the abdominal surgeons referred to, the profession, and suffering humanity, for the doctor to have stated in exact words to what he objected, his reasons for objecting, and the facts upon which these reasons are based.

This generalizing has a glittering appearance of something within it, but when boiled down to facts it is as an empty bubble. He next refers to the reports of successful operations, but seems to doubt the benefits derived therefrom, as implied in these reports. He has a perfect right to doubt; but when he makes the statement immediately below, "that in this city alone analysis of the term 'recovery' is demonstrated to mean escaped death from operation, to live on, suffering from abdominal hernia and fistula, fæcal fistula, neuralgia and disability," I think the doctor is drawing his bow a little too strong. It is an imputation reflecting very seriously upon the professional character of the many honest and earnest workers in this new and ever-expanding field of the surgeon's art. I do not think it fair for any man in the profession, be his standing what it may, to make such broad and sweeping assertions without an unlimited amount of data, that is unquestionable in its character, to back his statements. This he has failed entirely to give. What right has he to call upon the profession to take his *ipse dixit* as against dozens of others, as good and true men as he himself, and no doubt striving as honestly and earnestly to do that which is right for themselves and best for their patients? If the doctor has seen enough of failures to produce good results by these operations to warrant his statement, it is his duty to himself and to the profession, especially those of us who are far removed from educational centres, to bring forward his material, and show it in such light that all may know just what it is worth.

I myself am a seeker after knowledge in this respect, and would be only too willing to know if his statements are correct, before I, too, may be justly accused of the same mistakes.

The conclusions arrived at by the doctor are different from those I formed after a two months' stay in the city, associating with some of the brightest and most skilful abdominal surgeons in the city or in the United States. I myself was a doubting Thomas, and took special pains to rid myself of thoughts of the brilliancy of the operations, and looked only to

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the results that were obtained by the operations. Through the kindness and courtesy of Dr. Price, and his pupils of the Gynecean Hospital, I had the happy privilege of seeing and examining many of their patients before operation, and realized the necessity for it; watched them through their confinement to bed, and heard from their own lips expressions of gratitude for the relief obtained. I have seen many patients coming into the Philadelphia dispensary with haggard features and weary steps, scarcely able to walk, return there, after a three weeks' detention in the hospital from an operation for diseased tubes and ovaries, smiling and happy. Of course there may be some failures to give entire relief from all discomfort; but among all those I met and questioned (and they were many) after operation, there was not one who failed to say that she had been benefited. This I could often read in their increased buoyancy of spirit, lightened footsteps, and brightened faces. I have no doubt but what there have been many operations for diseased tubes or ovaries that were totally unjustifiable. This would necessarily be so, as all operators are beginners once. In this regard the doctor could not well ask the profession the questions propounded. In a city blessed with such institutions of learning as Philadelphia, and with the many honorable gentlemen whose practised skill in abdominal surgery gives to their opinion on these subjects, and whatever they may say in regard thereto, a weight which is not, and ought not to be, counterbalanced by the statement of those who differ with them, if unsupported by facts that cannot be gainsaid, I hope some of these gentlemen, whose operations have gone into the hundreds, will take up this subject, and without personal feeling give us facts from which we can draw our own conclusions; and I think the profession generally would be equally as willing to hear from Dr. Beates whatever facts he may have to base his assertions upon. I will certainly give to any such paper a most earnest consideration. I saw, during my stay in hospitals, many abdominal sections for various causes, and I never saw during that time one single fæcal or abdominal fistula, and but one ventral hernia, which was entirely relieved by a second operation.

GEORGE R. DEAN, M.D.

SPARTANSBURG, S.C., August 25, 1889.

To the Editor of Annals of Gynæcology: —

DEAR SIR, — The "British Medical Journal" for July 20 contains an article from the pen of the obstetric physician to St. Thomas Hospital, entitled "The etiological importance of gonorrhœa in relation to some of the more common diseases of women."

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The subject is well written up, and due importance attached to the well-known views of Nœggerath, and other writers favoring this pathological idea. But, aside from the writer's opinions as to this question, which I do not care to discuss at this time, there are certain remarkable departures from the present pathology, as well as changes in operative technique, so that your correspondent feels in duty bound to call some of them in hasty review. The most striking case for illustration is case No. 7 (p. 23): "M. C., age 19, on admission complained of pain only on left side of pelvis. She had a thick, purulent vaginal discharge, which was more profuse when the swelling in the inguinal region was less marked, and less so when it became hard and well defined. During her stay in the hospital she had an attack of very severe pain in the left side, with a high temperature and extreme prostration, thought at the time to be due to acute ovaritis. [The sequel makes it probable that these symptoms were due to perforation of the intra-uterine portion of the left tube from ulcerative salpingitis.]

". . . Lying behind and to the right of the uterus was a not very tense, smooth, oblong swelling, equal in size to an egg, and giving a sense of fluctuation. I was of the opinion that this was a hydrosalpinx of the right tube, and that the tube had become occluded at its fimbriated extremity, and bent upon itself, so that the outer distended portion lay behind the inner portion and the uterus."

The patient is in the mean time bordering upon a state of collapse; temperature 103.4°, pulse 134. "It was thought that the swollen tube had probably been ruptured, and it was decided, if the symptoms did not improve, that the abdomen should be opened. Next day, however, the patient was much better, and the temperature fell to what it was before the attack, and the swelling and tenderness gradually disappeared."

"On September 22 [four months or more after admission. I. S. S.] I ventured for the first time since the attack to make a vaginal examination. The result was that I found the retro-uterine swelling unaltered, or, if anything, a little fuller and more tense.

"On October 18 [nearly a month later. I. S. S.] abdominal section was performed for the removal of the dilated tube. This tube was pyriform in shape, 3¾ inches long; 2¼ inches in breadth at its widest, and 1¼ at its narrowest part. There were no adhesions about the swollen tube, and it was removed without difficulty along with the ovary. [This will be known as the ovary not having acute inflammation. I. S. S.] The contents of the dilated tube were serous. The left tube felt as though it contained hard nodules in substance of its walls; the left ovary was adherent. There was an adhesion of omentum to the left cornu of the uterus, and another less firmly adherent to the right cornu and adjacent portion of the Fallopian

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tube. The patient died of septic peritonitis seven hours after the operation."

To the very many readers of the ANNALS, this announcement will cause no surprise; but before commenting at length let us see what the author says: —

"At the necropsy there were some recent peritoneal adhesions in the lower part of the abdomen; a small quantity of thick pus was found in the pelvis. There were two black spots on the peritoneal aspect of the fundus uteri, one at each cornu. The tissues beneath were disorganized. A band-like process of great omentum passed to the gangrenous spot on the left side, and was firmly adherent there. . . . On opening the remains of the right Fallopian tube from within, the first half of the intra-uterine portion was normal, the second or outer half was ulcerated, and a *perforation, seven millimètres in length*, existed on its upper surface, corresponding to the gangrenous spot already described on the right cornu of the uterus. . . . The left tube was a little dilated, especially at its distal part, which contained some pus. On opening the intra-uterine portion of the tube, the inner half of that portion was healthy in appearance; the outer half was either occluded, or at any rate so constricted that a fine wire would not pass, between the constriction and the black spot on the peritoneal surface; the tissues were softened and of a deep-red color. No perforation could be detected.

"Beyond this were two hard nodules (gummata), which, on section, were seen to be pale, circumscribed masses of exudation, completely surrounding the mucous membrane. The left ovary was of normal size and much softened."

The lengthy quotation given shows many interesting complications, and most gynæcologists will not need to see further comment; but the very high standing of the author insures him many readers, and hence it appears best to point, at least, to some of the many inconsistencies, as well as errors, in pathology.

1. While in the hospital the patient had an illness following a history of gonorrhœa, with great pain, high temperature, extreme prostration, etc., thought to be "acute ovaritis." The question may well be asked, Does inflammation of this character appear in the ovary without first attacking the tube, its only channel leading to the ovary? This is the more surprising when there had been "a discharge, more profuse when the swelling was less marked," and *vice versa*. Certainly this is not the history of acute ovaritis.

2. The author very correctly made a diagnosis of hydrosalpinx, and operated for the removal of the right tube, which was done many months

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after admission, the patient at various times bordering upon collapse. It was thought that the tube had been ruptured, and still this delay.

It occurs to the average abdominal surgeon that this was questionable, when it is well known that these cases rapidly grow worse, and with greater complications the longer the operation is delayed.

3. The distended tube was very wisely removed; but why was it not *entirely* removed? This would have prevented the pyosalpinx from rupture, and would possibly have saved the patient's life, had no other complication existed. (The author admits in subsequent remarks having learned from this experience)

4. "There were no adhesions about the hydrosalpinx." Why did this fact not cause the operator to carefully search for the evidence of disease, which he should know must exist, following the symptoms described? The left tube had omentum adherent to it sufficient to show there had been dangerous inflammation, *i.e.*, salpingitis, previously, if not at present existing ("besides gummata").[1]

It would certainly appear that Mr. Tait and others have well established the necessity for removing both Fallopian tubes when an operation is done for salpingitis of one side. Taking it for granted that he (Mr. Tait) has not succeeded in this, the simplest idea of the pathology of intra-uterine gonorrhœa, or other causative factor spreading disease to one tube, may easily, in case of patency of the remaining tube, extend it to that likewise. Surely the literature of abdominal surgery furnishes numerous examples where the second operation was demanded on account of salpingitis of a remaining tube.

Therefore why permit this danger to patients hereafter?

5. Taking it for granted the clinical history and physical examination of the patient furnished no cause for suspecting omental adhesions, it may pertinently be asked, Is it good surgery to leave the omentum bound to the uterus or appendages? It has not been my observation that operators permit them to remain. They are regarded generally as significant of perforations, and to deal with them properly must be a matter of great concern to every operator. Moreover, they furnish a possible and frequent cause for intestinal obstruction. Therefore it would appear quite important, to say the least, that such important adhesions should be radically dealt with, and not be allowed to remain, their nature and extent not having been ascertained.

I. S. STONE, M.D.,
LINCOLN, VA.

[1] In last number of ANNALS an instructive case is cited by Dr. Henry Bestes, Jr. (p. 469), showing the result of a failure to remove both tubes.

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Editor Annals of Gynæcology: —

SIR,— I have been a reader of various medical journals for about thirty years. I presume it is the great aim and desire of the editors and contributors to impart knowledge to its readers. It has been my misfortune, during this long career, to be compelled to read so many communications from such a host of contributors on the different branches of our profession with so little practical benefit, that when I chance to drop upon something that corresponds to my way of thinking, and that I think will be a benefit to the profession, especially the young, my desire is that all should become acquainted with that something. I, therefore, entreat my young brethren to read the article by Geo. A. Tye, M.D., page 457, No. 10, Volume II. Truly,

L. M. SENCENDINE.

DARKESVILLE, W. VA., August 26, 1889.

FROZEN SECTIONS OF PARTURIENT WOMEN.

PLATES I.–IV.

THE great interest which was manifested in the copies of the plates of Frozen Sections, published in the number of the ANNALS for Feb., '89, has made it seem advisable to reproduce the other figures of this kind which have been published up to the present time, as in no other way can so clear and accurate a knowledge of the mechanism of labor be obtained. The plates which appear in the numbers of this journal for September and October are taken from the new edition of the atlas of Dr. Barbour,[1] in which, besides ten admirable colored plates of the sections of the author, is a collection of ten figures previously published by other investigators. One of these figures has already appeared in this journal, as mentioned above, and eight others will be printed in this number and the next.

The lucid and succinct explanation which Barbour has appended to the figures are quoted here as follows: —

BEFORE LABOR. — PLATE I.

"*Braune's section* of a multipara (?) who committed suicide by hanging, in the last month of pregnancy."

"This section shows the pregnant uterus at full time, with the child lying right occipito anterior. Note that the fundus is opposite the cartilage, between the first and second lumbar vertebræ, and the os externum opposite to the lower margin of the symphysis; the uterine walls are not

[1] The Anatomy of Labor, including that of full-time pregnancy, and the first days of the puerperium, exhibited in Frozen Sections, reproduced *ad naturam*, by A. H. F. Barbour, M.A., B.S., M.D., etc. 2d edition. 12 plates, with description. W. & A. K. Johnston, Edinburgh and London.

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contracting, the sinuses being distinctly seen; the posterior wall is of uniform thickness, while the anterior thins below into the lower uterine segment; the fœtus is in the normal attitude of flexion; the vagina is a mere cleft in the pelvic floor; the bladder is wholly in the pelvis; and the utero-vesical peritonæum comes some distance below the brim. The cervical canal is not exposed."

PLATE II.

"*Waldeyer's section* of a X-para at full time, who died from hæmorrhage some hours after both her legs had been cut off by a locomotive."

"This section forms an interesting comparison with Plate I., showing also the uterus before labor, but with the child's breech presenting. Note that the fundus is at the same level (between the first and second lumbar vertebræ), while the os externum stands higher; the uterine walls are not contracting, and show the gaping sinuses throughout; the posterior wall becomes rather thicker below, while the anterior thins between the utero-vesical peritonæum and the upper end of the cervix; the cervical canal measures 1.4 inch, and shows its glandular tissue stopping where the membranes cross its upper end. The bladder is in the pelvis, and the vagina a mere cleft. While the head of the fœtus is more flexed, the spine is less curved than in the head presentation of Plate I."

FIRST STAGE. — PLATE III.

"*Schroeder's section* of a IV-para, who died during first stage from albuminuria, with heart and lung complications."

"This section shows the cervix being dilated in the I. stage. The fœtus was dead, and its trunk is canted over on the head, — whence, probably, the unusual prominence of the fundus; the uterine walls are not contracting; the lower segment is drawn out anteriorly; where it passes into the thicker wall is the contraction-ring. The os internum and anterior lip are pushed down in front, and the bladder is in the pelvis."

FIRST STAGE. — PLATE IV.

"*Saexinger's section* of a I-para at the eighth month, who died from sepsis during the first stage of labor."

"The cervical canal, during life, admitted the finger through the os externum and internum. Note that (while no retraction-ring has formed) the uterine walls, especially the anterior, become thinner in their lower third; that the bladder extends for 1.8 inch above the symphysis, the utero-vesical reflection of the peritonæum also being .48 inch above it; and

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that the posterior lip of the cervix is more taken up than the anterior. Note further that with an external conjugate diameter of 7.4 inches (as measured during life), we find a conjugata vera of 3.68 inches; that the child is lying with its head across the pelvis so that the short transverse diameters of the head engage in the contracted conjugate; also that the bones are already somewhat moulded on the promontory. The extent of separation of membranes was not recorded."

REVIEWS.

THE PHYSICIAN HIMSELF AND THINGS THAT CONCERN HIS REPUTATION AND SUCCESS. By D. W. Cathell, M.D., of Baltimore, Md. Ninth edition, revised and enlarged. 300 pages. F. A. Davis & Co., Philadelphia and London. $2.00 net.

IT needs few words here to commend this excellent work to the profession; the rapid recurrence of editions is in itself an index of the appreciation in which it is held, and that justly. It is to the beginner like the kind advice of a father, who by experience has learned the causes of success and failure in professional life. In these pages many a disappointed and broken man may find clearly and gently set forth the reasons of his own failure, and haply may yet in time learn that his misfortunes are due to his own faults, and may profit by the knowledge.

In short, this book undertakes to teach what is not taught in the schools, what in these days few have an opportunity to learn from preceptors, and what most of us gather from bitter and expensive experience. The practice of medicine is something which, although founded on science supposedly, yet requires many qualities which are far from scientific, and which can never be learned from text-books. It is an old saying, that "no fool is a perfect fool until he has learned Latin;" and it is a matter of daily experience that many of the most learned doctors are the most unsuccessful practitioners. Dr. Goethe, half in jest but much in earnest, expressed the same idea in the famous advice to the student concerning medicine, which is given by the devil disguised as a professor, —

> "Vergebens dass Ihr ringsum wissenschaftlich schweift
> Ein jeder lernt nur was er lernen kann
> Doch wer den Augenblick ergreift
> Das ist der rechte Mann."

The art of seizing the right, happy moment of doing the right thing at the right time and in the right way is, to a great degree, an inborn quality; such a man is like a poet "nascitur non fit."

Nevertheless, we all have to learn in sorrow not to do the wrong thing

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at the wrong time and in the wrong way, and, in acquiring this experience, this book is of unquestionable advantage.

At the same time the advice is all on a high plane; in the strife for existence much of it seems like counsels of perfection, unattainable by struggling mortals. It is only incidentally, and in the way of warning against the wiles of unscrupulous competitors, that it appears that there are unworthy tricks even in the practice of medicine. False and unfair practitioners will get but little comfort from this book, which is designedly addressed to the higher aspirations and the better part of the nature of the reader.

Whoever will get the work, and follow the sagacious and prudent counsels contained in it, will assuredly be a gainer thereby, and will save himself many a bitter experience, many a bad bill, and the loss of many a family from the list of his patients; and yet we are constrained to say that the author goes too far in actually counselling his readers "never allow yourselves to be led away from the practical branches of medicine for histology, pathology, microscopic anatomy, refined diagnostics, bacteriamania, comparative anatomy, biology, psychology, and other captivating subjects that merely interest and create a fondness or monomania for the marvellous, or it will impair your practical tendency, and give your ardor a wrong bias, and your usefulness as a practising physician will almost surely diminish. The first thing to ask yourself in anything of this kind is, What is the use?"

Although the author admits that schoolmen and teachers and the rich physicians who work on these subjects for pleasure may properly pursue them, yet we venture to suggest that his view is exceedingly narrow, and we sincerely hope that the readers of the ANNALS will not be numbered among those who "care for none of these things." Of course, the active physician should not be led away from his cases, and as far as concerns those workers who practise medicine simply to get a living the advice may be good enough; but these studies need not, and should not, have any such effect as the author imputes to them, and they are highly useful. The use is of various kinds: in the first place, in the inward satisfaction which the searcher after the truths of nature experiences as he searches, in the lifting his soul out of the dreary rut of bread-and-butter work, and in giving him the consciousness that he is one of the whole body of scientific men who are banded together all over the world to search out the truth, and who live in and for each other. The Philistine who has never known this feeling cannot understand it, and for him the above advice may be good and satisfactory; but he who feels and knows the beauty of the scientific part of medicine will consider such an

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attitude as the author advises as treason to the highest and noblest part of his chosen profession. Secondly, the practice of medicine has always been held to be a learned profession, and to the physician is allotted a social position and a credit in the community far above what his pecuniary situation would warrant. If he abdicates his position as a learned man, how is he to hold up his head among the rich and powerful, or the cultivated and intelligent, in his own community? Shall he appear as the friend and equal of the best people, albeit he is comparatively poor; or shall he be only a "practical" man, hired to treat the patient as the blacksmith is hired to shoe the valuable horse?

Thirdly, the man who spends his spare time in cultivating the scientific branches is the one who will be the sounder and surer practitioner, and, as he grows older, he will get consultations from his "practical" brethren, and will stand in esteem and honor among his equals; for, with the progress in medical education in this country, the man who starts out now to neglect the subjects enumerated above will presently find himself grievously deficient in what is expected of a well-educated physician.

E. W. C.

ON THE ÆTIOLOGY OF PUERPERAL FEVER. — *Smith, El Prog. Gin. y Ped. Jan. 10, 1889.*

THE author made a series of gelatine cultures with blood taken from the heart of a woman who died from puerperal fever. After an interval of two or three days many colonies of a micrococcus were apparent. Rats inoculated with the microbe died in three or four days, the micrococcus being found in their blood. Inoculations were also made in the ears of rabbits, and at the end of twenty-four hours a circumscribed redness without tendency to diffusion was apparent, the redness disappearing in two or three days. Another series of cultures and inoculations was made with blood taken from the finger of a woman sick with puerperal fever, and this produced similar results. The following conclusions were deduced: —

1. The blood of women suffering with puerperal fever contains a particular micro-organism.

2. This microbe is a streptococcus which differs much from others, as shown by cultivation and inoculation.

3. Its action upon rats and rabbits is a definite one.

4. It differs from the streptococcus erysipelatosus of Fehleisen, and the streptococcus of Rosenbach.

A. F. C.

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SALPINGO-OÖPHORITIS AND ITS RELATIONS TO EXUDATES WITHIN THE ABDOMEN. — *Terillon, Jour. de Méd. March 3, 1889.*

MANY points have been elucidated respecting circum-uterine inflammations since surgeons began boldly to make investigations by means of laparotomy. These investigations have shown that those diseases known under the name of parametritis were due to disease of the tubes and ovaries; they have also verified the assertion of Aran and of Bernutz, that pelvic peritonitis is a late phenomenon of tubal and ovarian disease, but a most important one from a clinical stand-point. From the foregoing it has followed that the so-called phlegmon of the broad ligament is no longer recognized, or at least only very rarely. Hence the theories concerning phlegmon and adeno-phlegmon of the broad ligament should be abandoned as causes of error in the interpretation of certain symptoms. In pelvic or circum-uterine inflammations an indurated mass is frequently found near the pubic arch and in the region of the broad ligament, extending, perhaps, near to the umbilicus. This may be followed by fluctuation, which will be the guide for opening a deeply seated abscess. It has heretofore been considered by many as the extension of a phlegmonous inflammation beginning at the base of the broad ligament, developing within its layers, and penetrating to its upper portion. From the latter point it was supposed that it infiltrated the tissue between the peritonæum and the pelvis, stripping up the peritonæum and forming a mass between the Fallopian tube and the abdominal wall. Laparotomies have demonstrated the error of such views as the foregoing, and have shown the cause of the abdominal exudate, and also its practical importance. The tubes and ovaries do not always occupy the same position in the pelvis when this exudate exists, and they may be found at a great distance from their normal situation. Usually they are in the *cul-de-sac* of Douglas, massed at the side of the uterus; but sometimes they are fixed by firm adhesions behind the symphysis pubis, at their proper level. They may also be displaced upward, perhaps coming in immediate contact with the abdominal wall. If they are much enlarged while in the latter position they may be mistaken for an abdominal exudate. The tumor in such cases may become as large as the fist, including not only tubes and ovaries, but also omentum and masses of thickened false membrane, all firmly adherent to each other.

A. F. C.

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THE RELATIONS OF GENERAL PARALYSIS IN WOMEN TO CERTAIN DISORDERS OF MENSTRUATION. — *Petit, Gaz. Méd. Feb. 23, 1889.*

Some writers believe that the menstrual function is not deranged in women who suffer from general paralysis. Others believe that the cessation of the menses is a frequent cause of general paralysis, the latter being, therefore, a disease of the menopause. The author thinks that the menstrual troubles of paralytic women may be the direct or the sympathetic consequence of the cerebral disease. Of fifty-nine paralyzed women under his observation, menstruation was disturbed in fifty-two of them. In all cases the menstrual disorder followed the beginning of the general paralysis. In sixty-four cases of insanity in women, he found the menstrual function disturbed in only nine. His conclusions are: —

1. The development of general paralysis in women often leads to menstrual disorders.

2. There may be sudden arrest of the menses, or only marked irregularity in the performance of the function.

3. Should there be a remission of the paralysis, regularity of the menstrual function would also be restored.

A. F. C.

AFFECTIONS OF THE TUBES AND OVARIES IN THEIR CLINICAL AND ANATOMICO-PATHOLOGICAL ASPECTS. — *Mijnor, An. de Obst. Gin. y Ped. April, 1889.*

The following conclusions are offered: —

1. In tubal disease the anatomico-pathological forms do not entirely correspond to the different clinical ones.

2. The diagnosis of tubal disease is not excessively difficult. A diagnosis can frequently be made from the statements of the patient, when the bimanual examination will not give clear results.

3. The variation in the size of the tumor, depending upon ovulation and menstruation, is to be noted in making a diagnosis. This variability is especially noteworthy in small tubo-ovarian tumors.

4. Tubal disease tends to extend to the neighboring organs and tissues.

5. The tubes may be distended with serum or pus, without false membrane causing adherence to neighboring organs; or an abundance of

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false membranes may cause agglutination of all the pelvic viscera, the organs themselves not being very much changed.

6. The tubal disease may be an extension of a process affecting the mucous membrane of the uterus, or it may result from disease in the vicinity of the tubes, which has been transmitted by the lymphatics.

7. It is usually bilateral, though it may vary in degree on the two sides.

8. The anatomico-pathological changes may depend upon the intensity of the process, its duration, its cause, its point of departure, etc. The changes may be primary or secondary.

9. The phenomena of atrophy and hypertrophy are those which usually attend inflammations resulting in such conditions. There are changes in the vessels, there is emigration of red and white corpuscles; also swelling of the tissues, and the formation of new connective tissues.

10. Effusions of blood into the tubal walls may take place, but blood in the cavity of the tube does not necessarily indicate hæmorrhagic salpingitis.

11. The tubes may be divided into cavities, or pockets, lined with cylindrical epithelium, some of which will communicate with the general cavity of the tubes, others being separated from it. These cavities may be in tubes which are greatly enlarged, or in those which have walls of normal dimensions.

12. The ovaries usually participate in tubal disease, especially if there is cystic degeneration, cicatricial contraction, or atrophy of the ovary. They are rarely implicated in cases of abscess, follicular degeneration of the tubes, etc.

13. Atrophy of the ovaries sometimes occurs in cases in which they, with the tubes, are imbedded in false membrane.

14. Should disease of the uterine adnexa persist a long time, it will excite certain reflex phenomena of the nervous system, the gastro-intestinal tube, etc.

A. F. C.

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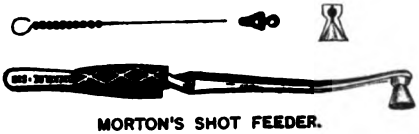
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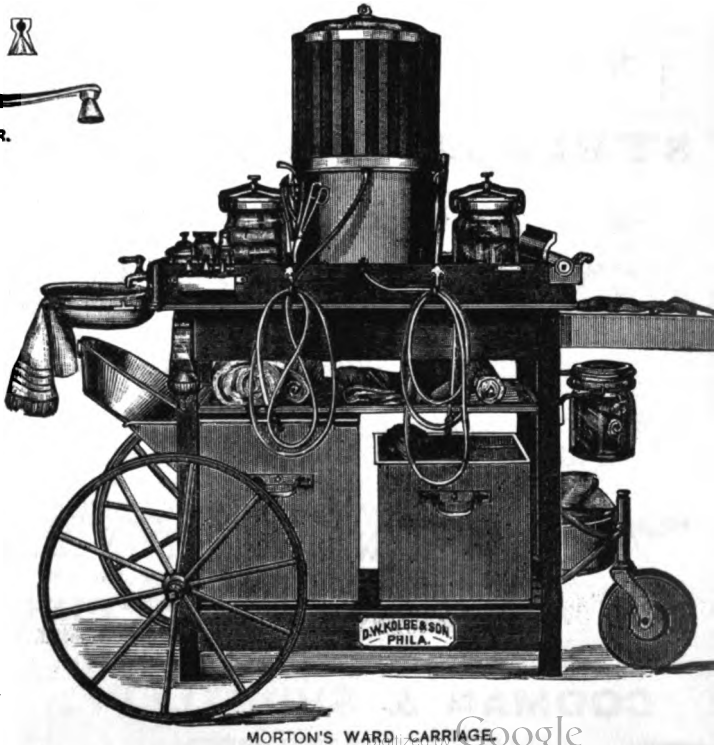
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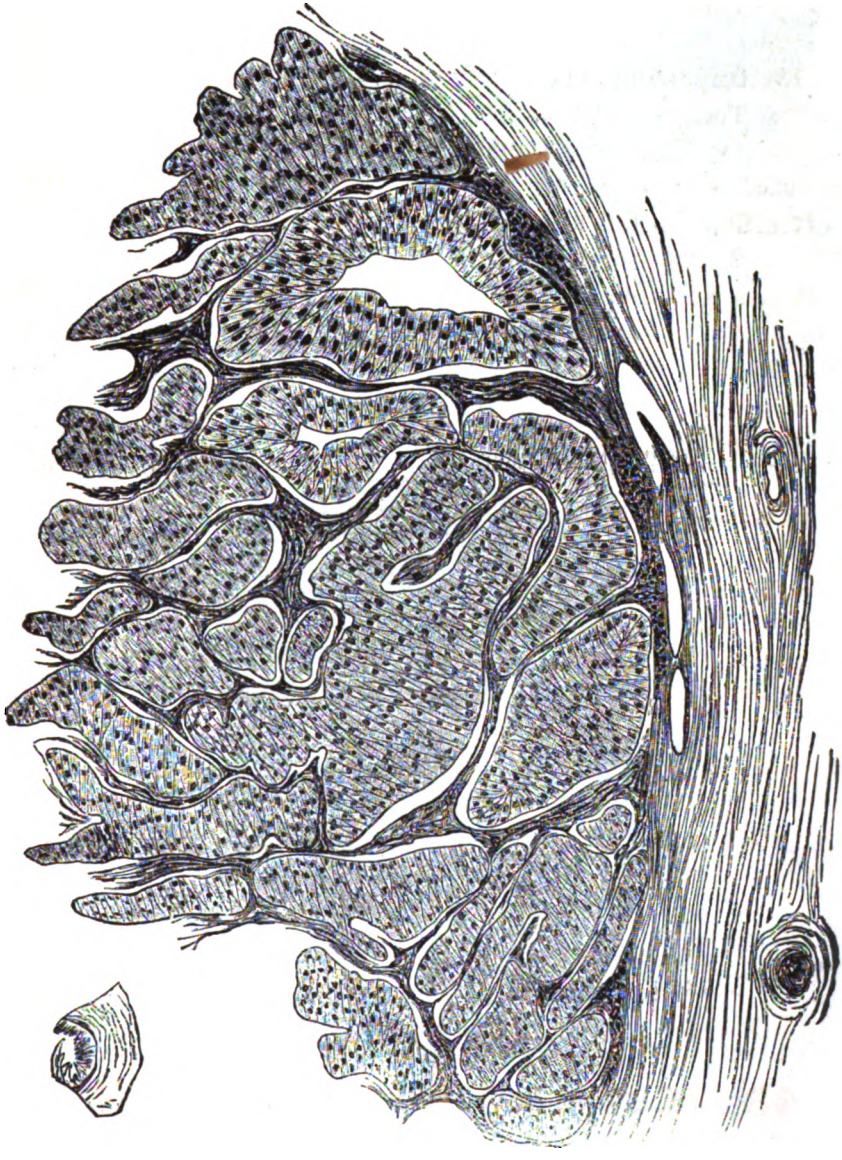
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Fig. 147.

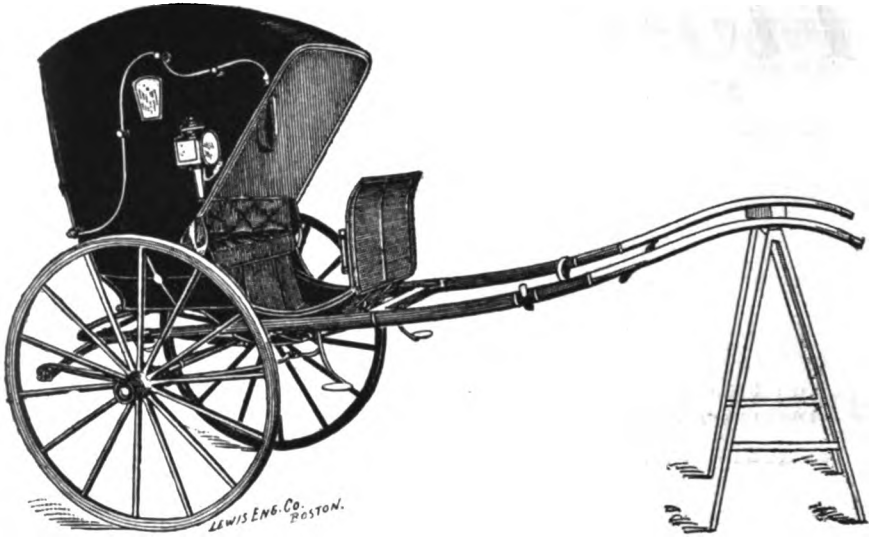


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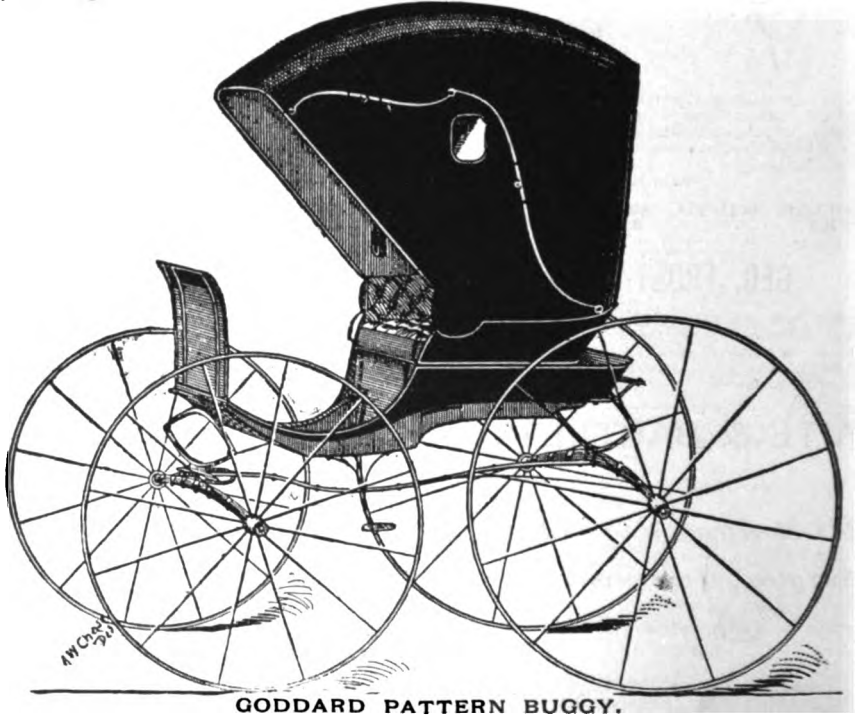
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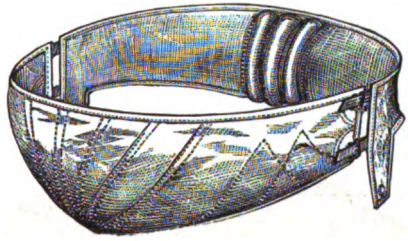
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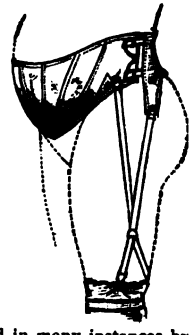
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OF

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EDITED BY

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